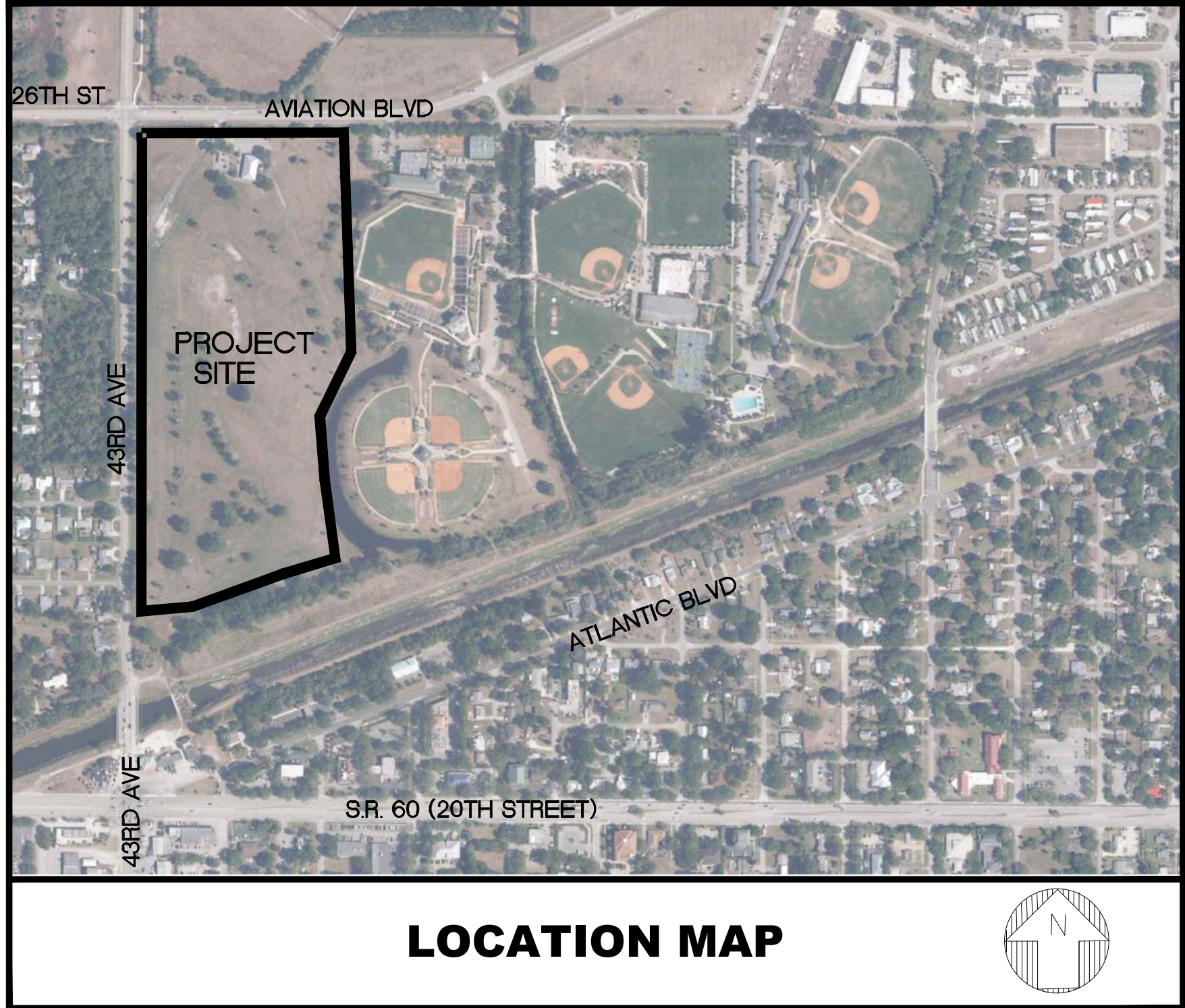


JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL

PROJECT NO. IRC-1908

REVISED: JUNE 2023



LOCATION MAP

OWNER



INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

JOE EARMAN - CHAIRMAN
SUSAN ADAMS - VICE-CHAIRMAN
JOSEPH E. FLESCHER - COMMISSIONER
DERYL LOAR - COMMISSIONER
LAURA MOSS - COMMISSIONER

ENGINEER



CIVIL ■ STRUCTURAL ■ SURVEYING ■ ENVIRONMENTAL
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035
MELBOURNE, FL - PH: (321) 253-1510
FT. PIERCE, FL - PH: (772) 468-9055

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AARON G. STANTON
FL. P.E. #72460

This item has been digitally signed & sealed by Aaron Stanton, P.E. on the date adjacent to the seal.
Printed copies of this document are not considered signed & sealed and the signature must be verified on any electronic copies.

AARON G. STANTON
FL. P.E. #72460
DATE: 6/19/23

SHEET
C1a

MBV JOB: 19-0077

PRE-CONSTRUCTION REQUIREMENTS:

- THE CONTRACTOR IS REQUIRED TO PERFORM HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE VARIOUS PERMITS WHICH WILL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE (SEQUENCE OF OPERATIONS) PRIOR TO THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR WILL ATTEND A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER, MUNICIPALITY AND/OR OWNER PRIOR TO LAND DISTURBANCE.
- SHOP DRAWINGS SHALL BE SUBMITTED BEFORE ORDERING MATERIAL FOR PLANNED PROJECT. CORRESPONDING SHALL BE BETWEEN THE DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

CONSTRUCTION NOTES:

- THE CONTRACTOR IS ADVISED TO THOROUGHLY REVIEW THIS PLAN PACKAGE SO AS TO BE TOTALLY PREPARED TO PRESENT HIS BID PRICES IN THE CONTRACT DOCUMENTS. THE PLAN PACKAGE SUFFICIENTLY DELINEATES THE SCOPE AND INTENT OF THE ROADWAY WORK TO BE ACCOMPLISHED. IT WILL, THEREFORE, BE INCUMBENT ON THE CONTRACTOR TO ADJUST HIS FEE DOLLARS TO REFLECT ANY AND ALL ITEMS WHICH MAY NOT BE CLEARLY OUTLINED OR THOSE ITEMS WHICH MAY NOT BE INDICATED BUT WHICH ARE NECESSARY FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT WITHOUT ADDITIONAL COSTS TO THE OWNER.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF VERO BEACH AND FDOT STANDARDS AND SPECIFICATIONS.
- THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR THE COORDINATION OF UTILITY RELOCATION.
- CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN THE FIELD WITH UTILITY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. POSSIBLE UTILITY PROVIDERS THAT MAY HAVE UTILITIES IN THIS LOCATION: CITY OF VERO BEACH UTILITIES AT&T F.P.L COMCAST CABLE
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION, AS REQUIRED BY THE UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT. NOTIFY SUNSHINE AT 811.
- CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
- CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
- UTILITIES ARE TO BE ADJUSTED BY UTILITY OWNER OR AS DIRECTED BY THE ENGINEER.
- SURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE. TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND IS TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER IF SOIL OR SUBSURFACE CONDITIONS UNSUITABLE FOR CONSTRUCTION ARE ENCOUNTERED.
- ALL EXCAVATED SOILS DEEMED SUITABLE AS FILL MATERIAL AS DETERMINED BY THE ENGINEER SHALL BE UTILIZED ON SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. THE EXACT LOCATION OF DELIVERY ON SITE SHALL BE DETERMINED BY THE ENGINEER. ALL EXCAVATED SOILS DEEMED UNSUITABLE SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.
- ITEM IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT HIS OWN EXPENSE.
- CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
- IT SHOULD BE NOTED THAT THE OCCUPATIONAL SAFETY AND HEALTH ACT PROHIBITS THE OPERATING OF EQUIPMENT OR MACHINES CLOSER THAN TEN (10) FEET TO ENERGIZED ELECTRICAL LINES RATES AT FIFTY KILOVOLTS OR BELOW. ALSO, NO EXCAVATION IS PERMITTED WITHIN FIVE (5) FEET OF POWER POLE FACILITIES.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
- ALL IRONS AND MONUMENTS (P.R.M.'S) SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
- ANY PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR WILL NOTIFY THE ENGINEER.
- ALL EXISTING TREES WITHIN THE RIGHT OF WAY ARE TO BE REMOVED AS CLEARING AND GRUBBING UNLESS OTHERWISE NOTED.
- WHEN REFERENCED TO, FDOT REFERS TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, CURRENT EDITION.
- THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH IS NOW EXISTING.
- BACKFILL, GRADE AND SOD AS REQUIRED AROUND ALL NEW CONSTRUCTION AND ALL DEVELOPED LOTS TO PREVENT EROSION. SEED AND MULCH WILL ONLY BE ALLOWED TO RESTORE UNDEVELOPED LOTS AFFECTED BY CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
- SODDING TO BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER. SOD ALL DISTURBED AREAS UPON COMPLETION.
- ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
- MAINTENANCE OF TRAFFIC SHALL BE ACCORDANCE WITH FDOT STANDARDS FOR TRAFFIC CONTROL THROUGH WORK ZONES AND MUTCD (PART VI).
- PROPERTY OWNERS AND BUSINESSES WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN ACCESS TO THEIR PROPERTY AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
- ALL MAILBOXES SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE U.S. POSTAL MAIL CARRIER.
- THE CONTRACTOR SHALL REMOVE, COVER OR OBLITERATE EXISTING ROADWAY SIGN AND PAVEMENT MARKINGS THAT CONFLICT WITH THE CONSTRUCTION TRAFFIC CONTROL PLANS.
- CONTRACTOR TO PROTECT ALL SPRINKLER HEADS NOT IN CONFLICT WITH DESIGN AND RELOCATE ALL THOSE WHICH ARE IN CONFLICT TO A LOCATION DETERMINED IN FIELD.
- SOD TWO (2) FEET MINIMUM ALONG SIDE PROPOSED EDGE OF PAVEMENT.
- THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY DRAINAGE MEASURES AS REQUIRED TO ADEQUATELY DRAIN THE PROJECT AND ANY TEMPORARILY TRAVELED ROADWAYS. TEMPORARY DRAINAGE DESIGN, CONSTRUCTION AND MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY; HOWEVER, ALL SUCH MEASURES MUST BE APPROVED BY THE ENGINEER.
- THE EXISTING SIDEWALK SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED.
- GRADES SHOWN ARE FINISHED GRADES.
- SAWCUT CONCRETE OR ASPHALT DRIVEWAYS AS REQUIRED FOR REPLACEMENT.
- ALL ABANDONED UTILITIES (INCLUDING PIPES, CABLES AND STRUCTURES) FOUND IN THE RIGHT OF WAY AND NOT SHOWN ON THE PLANS, ARE TO BE REMOVED AND PROPERLY DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR. THIS INCLUDES ALL EXOTIC PIPES LIKE ASBESTOS-CEMENT PIPE. COST TO BE INCLUDED IN CLEARING AND GRUBBING ITEM.
- DRIVEWAY LOCATIONS AND WIDTHS ARE APPROXIMATE AND ARE TO BE ADJUSTED AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- BENCHMARK DATUM IN NAVD 88.
- BACKFILL AND SOD AS REQUIRED BEYOND RIGHT OF WAY LINES ON INDIVIDUAL LOTS TO MAINTAIN POSITIVE DRAINAGE FLOW INTO CURB AND GUTTER.
- GRADE AND SOD SWALES TEN (10) FEET FROM PROPOSED DITCH BOTTOM INLETS AND MITERED END SECTIONS ON SIDE STREETS AS REQUIRED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN $\frac{1}{4}$ (BASELINE) AND $\frac{1}{4}$ (CENTERLINE) CONSTRUCTION THROUGHOUT THE PROJECT.
- THE CONTRACTOR SHALL REMOVE DRIVEWAY APRONS AND DRIVEWAY CULVERTS AND SHALL MAINTAIN ROUGH GRADE FOR UTILITY MODIFICATIONS.
- ALL EXISTING SWALES SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGE TO THE SWALE LINE SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICES FOR BID ITEMS.
- MAINTAIN A MINIMUM OF ONE (1) FOOT CLEARANCE BETWEEN POWER POLE AND EDGE OF SIDEWALK.
- WHEN ALL OTHER PERMANENT CONSTRUCTION IS COMPLETE, THE FINAL SURFACE COURSE SHALL BE PLACED.
- CONSTRUCTION OPERATIONS FOR PLACEMENT OF THE FINAL SURFACE COURSE SHALL BE LIMITED TO A DISTANCE, AS DIRECTED BY THE ENGINEER, THE CONTRACTOR CAN COMPLETE IN ONE (1) DAY.
- THE CONTRACTOR SHALL IMPLEMENT TEMPORARY PAVEMENT MARKINGS UNTIL THE FINAL SURFACE COURSE HAS CURED (MINIMUM THIRTY (30) DAYS AFTER FINAL SURFACE COURSE PLACEMENT), ANY TEMPORARY PAINTED MARKINGS PLACED ON THE FINAL.
- PAVEMENT TRANSITION SHALL BE MADE IN ACCORDANCE WITH PAVEMENT TRANSITION DETAIL.
- ALL APPROVED PERMIT CONDITIONS, INCLUDING BUT NOT LIMITED TO CITY OF VERO BEACH, SHALL BE MET BY CONTRACTOR PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.

ROADWAY SPECIFICATIONS

- GENERAL**
IT IS INTENDED THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" MOST CURRENT EDITION BE USED WHERE APPLICABLE FOR VARIOUS WORK, AND THAT WHERE SUCH WORKING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORKING IS INTENDED TO BE REPLACED WITH THAT WORKING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS THE "STANDARD SPECIFICATIONS" FOR THIS PROJECT.
IF WITHIN THAT PARTICULAR SECTION ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE A PART OF THE STANDARD SPECIFICATIONS ALSO.
THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE PRIOR TO REQUESTING INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.
THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF TWO YEARS FROM THE DATE OF PROJECT ACCEPTANCE, DURING WHICH ALL FAULTY CONSTRUCTION AND/OR MATERIALS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- GRADING**
THE CONTRACTOR SHALL PERFORM ALL GRADING NECESSARY TO ACHIEVE THE PROPOSED PLAN GRADES INCLUDING TYPICAL SECTIONS.
ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS.
- STAKING**
CONSTRUCTION STAKING WILL BE PERFORMED BY THE CONTRACTOR.
- STABILIZING**
STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO THE FLORIDA BEARING VALUE AS PER PLAN FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, AND IN ACCORDANCE WITH SECTION 160 OF THE STANDARD SPECIFICATIONS.
(TYPE C STABILIZATION). ALL STABILIZED AREAS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- BASE COURSE**
THE BASE SHALL BE CONSTRUCTED OF EITHER LIMESTOCK MATERIAL IN ACCORDANCE WITH SECTION 911 OR CEMENTED COQUINA SHELL MATERIAL IN ACCORDANCE WITH SECTION 915 OF THE STANDARD SPECIFICATIONS.
LIMESTOCK BASE AND CEMENTED COQUINA SHELL BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 200 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE ROCK PIT CERTIFICATION FOR CEMENTED COQUINA SHELL MATERIAL. BASE SHALL BE COMPACTED BY AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. BASE SHALL BE APPROVED PRIOR TO PRIME COAT.
- PRIME AND TACK COAT**
PRIME AND TACK COAT FOR THE BASE SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS.
- ASPHALTIC CONCRETE SURFACE COURSE (A.C.S.C.)**
TYPE SP 9.5 AND SP 12.5 SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS.
- TESTING**
THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN APPROVED INDEPENDENT TESTING LABORATORY TO CONDUCT ALL REQUIRED TESTS ON SUBGRADE, BASE AND SURFACE COURSE MATERIALS. TEST RESULTS MUST BE SUBMITTED PRIOR TO ANY REQUEST FOR PAYMENT ON THE ABOVE ITEMS.
THE SCHEDULE FOR TESTING OF THE ROAD CONSTRUCTION SHALL BE AS FOLLOWS:
A. SUBGRADE:
1. FLORIDA BEARING VALUE TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS.
2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET OR CLOSER AS MIGHT BE NECESSARY.
B. BASE:
1. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET OR CLOSER AS MIGHT BE NECESSARY.
ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 1 1/2 INCHES INSIDE THE LEFT EDGE, TO THE CENTER, TO A POINT 12 INCHES INSIDE THE RIGHT EDGE OF THE ITEM TESTED.
IF ANY TEST INDICATES THAT THE WORK DOES NOT MEET THE SPECIFICATIONS, THE SUBSTANDARD AREA SHALL BE REWORKED OR CORRECTED AND RETESTED, AT THE CONTRACTOR'S EXPENSE, UNTIL THE PROVISIONS OF THESE SPECIFICATIONS ARE MET.
ALL PASSING TESTS SHALL BE PAID FOR BY THE OWNER. ALL FAILING TESTS SHALL BE PAID FOR BY THE CONTRACTOR.
- CLEAN-UP**
THE CONTRACTOR MUST PROVIDE CLEAN-UP OF EXCESS CONSTRUCTION MATERIAL UPON COMPLETION OF THE PROJECT. THE SITE MUST BE LEFT IN A NEAT, CLEAN, GRADED CONDITION.
- CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS**
- OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
 - ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
 - ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
 - IF APPLICABLE, STREET RESTORATION TO BE DONE AS PER CITY OF VERO BEACH STANDARDS.
 - THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
 - TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.

SUMMARY OF PAY ITEMS

- | | |
|-------------|--|
| 101-1 | Mobilization: The lump sum price paid includes, but is not limited to, all costs associated with insurance, bonds, required permits and fees, preparation and submittal of FDEP Notice of Intent (NOI), Shop Drawings and Submittals, moving into the job (mobilization), moving off the job (demobilization), project phasing, supervision, coordination of concurrent work with other contractors, meetings, surveying, resetting survey monuments, videotaping site prior to start of work, potholing, "as-built" plans, and clean up of work indicated in the contract documents. |
| 102-1 | Maintenance of Traffic: Includes, but is not limited to, barrier walls, vertical panels, attenuators, temporary striping, including temporary striping for 30 day cure period, construction signs, business signs, message boards, barricades, permanent relocation of signs and all other traffic incidental items required for the maintenance of traffic on a 24 hour / 7 day basis. Variable changing message sign shall be in place 2 weeks prior to all road closings, all costs for each phase of work and the overall project shall be included. Cost shall include any drainage elements beyond what is specified in the contract documents, and all items necessary to meet the maintenance of traffic requirements of the Florida Department of Transportation as prescribed in section 102-1 of the FDOT Standard Plans. Included MOT plans prepared for each phase of work and the overall project. |
| 110-1-1 | Clearing and Grubbing: The clearing and grubbing area is defined as only the area of the proposed millings road and trail. The lump sum price paid included but not limited to vegetation & topsoil removal saw cut and/or removal of existing drainage structures, piping, flexible pavement, millings, curb, the removal of existing guardrail, poles, fence and the removal of existing pipes, headwalls and/or structures. Work also includes relocation of existing drainage structures. Where existing pipes are removed and the existing structure remains, the resulting hole shall be formed and repaired with concrete. The contractor shall comply with the State of Florida Trench Safety Act. |
| 120-1 | The unit price paid per cubic yard includes all costs for excavation shown on the plans, protection and relocation of substructures, and placing fill on site to construct the trail, as required. Any excess fill shall be removed from the site at contractor's expense. |
| 160-4 A&B | Includes 6" thick stabilization for walking trail at 9,607 sy, 6" thick stabilization for concrete sidewalk at 191 sy and 8" thick stabilization for internal driveway at 5,389 sy. |
| 283-711 A&B | Millings material to be provided by Indian River County. Pay Item is for labor and installation only. |
| 334-1-53A | Superpave Asphaltic Concrete leveling course: This unit price will include filling any existing potholes in parking lot area with HMA prior to applying the leveling course. |
| 430-175-160 | Includes structural fill, geotextile and rip-rap as required per Temporary Culvert Rip-Rap Embankment Detail on sheet C6a. |
| 522-2 | All concrete shall be 6" fiber reinforced and minimum 3,000 psi strength. |
| 570-1-2 | Cost to include, sod, fertilizer, mowing, watering, tools, equipment, pegging, labor and all incidental items necessary. Sod to be placed at 2' thickness from edge of trails and driveway and over disturbed areas. |

DRAINAGE SPECIFICATIONS

- STORM INLETS AND MANHOLES SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH SECTION 425 OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.
CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.
PRECAST CONCRETE MANHOLES AND STORM INLETS MAY BE USED UPON THE ENGINEER'S APPROVAL OF THE MANUFACTURER'S SHOP DRAWINGS.
STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 430 AND RELATED SECTIONS OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.
CONCRETE
UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA.
CULVERT PIPES
REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.
PRECAST CONCRETE DRAINAGE PRODUCTS
ALL PRECAST CONCRETE DRAINAGE PRODUCTS (INCLUDING BUT NOT LIMITED TO ROUND CONC. PIPE, ELLIPTICAL CONC. PIPE, UNDERDRAINS, MANHOLES, INLETS, ENDWALLS, JUNCTION BOXES, THREE SIDED CONC. CULVERTS, AND CONC. BOX CULVERTS) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.
GROUNDWATER
GROUNDWATER MAY BE ENCOUNTERED ON THIS SITE. THE CONTRACTOR IS TO PLAN ACCORDINGLY. FOR DEWATERING TO PROVIDE FOR PIPE INSTALLATION, A SYSTEM CAPABLE OF MAINTAINING A GROUNDWATER LEVEL AT LEAST 2' BELOW BOTTOM OF PIPE LEVEL SHALL BE UTILIZED.
RECORD DRAWINGS
CONTRACTOR SHALL KEEP AND MAINTAIN RECORD DRAWINGS ON THE PROJECT SITE AT ALL TIMES WHICH SHALL BE ANNOTATED BY THE CONTRACTOR DEPICING ANY CHANGES MADE IN THE FIELD WHICH DIFFER FROM THE CONTRACT DRAWINGS. RECORD DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO, INVERT AND TOP ELEVATIONS OF CULVERTS AND INLET STRUCTURES. CONTRACTOR SHALL SUBMIT COMPLETE AND FINAL RECORD DRAWINGS TO ENGINEER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL INSPECTION AND FINAL PAYMENT.
INSPECTION
MINIMUM CONSTRUCTION INSPECTION CHECKPOINTS
THE ENGINEER SHALL BE NOTIFIED:
1. PRIOR TO ANY MAJOR DEVIATION FROM THE APPROVED PLANS.
2. PRIOR TO BACKFILLING ANY PIPE TRENCHES.
3. UPON COMPLETION OF SUBGRADE GRADING AND COMPACTION.
4. UPON BEGINNING OF SPREADING OF ROCK BASE MATERIAL.
5. UPON COMPLETION OF GRADING AND COMPACTION OF THE BASE MATERIAL AND PRIOR TO PRIMING.
6. IMMEDIATELY PRIOR TO AND UPON APPLICATION OF A.C.S.C.
7. UPON COMPLETION OF CONSTRUCTION.

GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
- ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.
- ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY OF VERO BEACH AND THESE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
- NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- CONTRACTOR SHALL SUPPLY DENSITY TESTS TO ENGINEER ON ALL SUB-GRADE AND BASE. TESTS SHALL BE PREPARED PER AASHTO T-180 METHOD.
- SLOPE GRADES FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE. MAXIMUM SLOPE 4:1.
- ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH M.U.T.C.D. STANDARDS, INDIAN RIVER COUNTY AND F.D.O.T.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.
- THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTORS BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE. WHEN GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL PLAN ACCORDINGLY.
- ALL INLETS SHALL HAVE A 6" MIN. SUMP BELOW LOWEST INVERT.
- EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
- PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUDED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
- CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
- THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
- FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN SIX (6) VERTICAL FEET ON SITE PER CITY OF VERO BEACH CODE.
- DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT, RADI SHOWN ARE TO FACE OF CURB.
- ALL SIGNS SHALL BE PER M.U.T.C.D. STANDARDS.
- ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER CITY OF VERO BEACH REQUIREMENTS.
- THE USES PROPOSED AS PART OF THIS PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED THE EPA'S RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
- WATER FOR FIRE FIGHTING PURPOSES SHALL BE INDICATED WITH A BLUE ROADWAY REFLECTOR, PLACING ONE FOOT OFF OF THE CENTERLINE OF THE ROAD FACING THE FIRE HYDRANT. THIS INCLUDES NEW AND EXISTING SOURCES.
- REGARDLESS OF PRIVATE OR PUBLIC DEDICATIONS, THERE SHALL BE NO UTILITY CONNECTIONS, METER BOXES OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.
- CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
- ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.
- ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR FOR ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
- ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 711-001, LATEST EDITION.
- COMMERCIAL/MULTI-FAMILY BUILDINGS SHALL POST A MINIMUM 6 INCH NUMERICAL ADDRESS.
- ALL STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE RETRO REFLECTIVE TRAFFIC PAINT (THERMOPLASTIC).
- ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE CITY OF VERO BEACH ORDINANCES.
- ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.

PAY ITEM NO.	DESCRIPTION	UNIT	PROJECT QUANTITY
ROADWAY PAY ITEMS			
101-1	MOBILIZATION	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
104-10-3	SEDIMENT BARRIER	LF	5,108
104-15	SOIL TRACKING PREVENTION DEVICE	EA	1
110-1-1	CLEARING AND GRUBBING	AC	3.74
120-1	REGULAR EXCAVATION	CY	6,580
160-4A	TYPE B STABILIZATION (LBR-40) - For trail and sidewalks	SY	9,607
160-4B	TYPE B STABILIZATION (LBR-40) - for road	SY	5,389
283-711A	RECLAIMED ASPHALT PAVEMENT, 6" - EMULSION STABILIZED (I.E. MILLINGS) - For trail	SY	9,416
283-711B	RECLAIMED ASPHALT PAVEMENT, 8" - EMULSION STABILIZED (I.E. MILLINGS) - For road	SY	5,389
334-1-53A	SUPERPAVE APHALTIC CONCRETE, LEVELING COURSE	TN	137
334-1-53B	SUPERPAVE ASPHALTIC CONCRETE, TRAFFIC C (TYPE SP-12.5, 76-22, 1.5")	TN	283
425-1-521	INLET-DRAINAGE, TYPE C	EA	1
430-175-160	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 60" S/C/D	LF	60
430-175-215	PIPE CULVERT, OPTINAL MATERIAL, ELLIPTICAL, 15" S/C/D	LF	523
430-982-623	MITERED END SECTION - 12"x18"	EA	13
520-1-10	TYPE F CURB	LF	81
520-3	VALLEY GUTTER - CONCRETE	LF	69
522-2	6" THICK FIBER-MESH REINFORCED CONCRETE SIDEWALK	SY	191
527-2	DETECTABLE WARNING	SF	16
530-3-4	RIPRAP - RUBBLE	TN	210
542-70	CONCRETE BUMPER GUARD (I.E. WHEEL STOPS)	EA	2
570-1-2	PERFORMANCE TURF, MATCH EXISTING	SY	16,250
580-5-26	LANDSCAPE - TREES, SPECIFIED FROM PROJECT LIST, CONTAINER GROWN, 100 GAL	EA	28
700-1-11	SINGLE SIGN POST, F&I, GM, < 12 SF (HANDICAP PARKING & STOP SIGNAGE)	EA	4
710-90	HANDICAP STRIPING	LS	1
711-11-123	THERMOPLASTIC PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 12"	LF	81
711-11-125	THERMOPLASTIC PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 24"	LF	27
711-11-221	THEROMOPLASTIC PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	LF	90
999-1	DENSITY TESTING FOR ROADWAY & TRAIL	LS	1
999-2	RECORD DRAWINGS (BY REGISTERED SURVEYOR)	LS	1
1050-31-206	UTILITY PIPE - SCH. 40 PVC - 6"	LF	60


8	7	6	5	4	3	2	1	REVISIONS PER 2023 BID
DESIGNED	DRAWN	DATE	CHECKED	AS	AS	AS	AS	06/16/2023
AS	AS	JOB	DATE	AS	AS	AS	AS	06-05-2023
			JAN. 10, 2020					

MBV ENGINEERING, INC.
 MOHA BOWLES WILLIAMS & ASSOCIATES
 CIVIL & MECHANICAL ENGINEERING
 VERO BEACH, FL 32909
 CA #57126
 TEL: (772) 378-1941
 FAX: (772) 378-1941

JACKIE ROBINSON TRAINING COMPLEX
 WALKING TRAIL

GENERAL NOTES,
 SPECIFICATIONS & PAY ITEMS

CITY OF VERO BEACH
 FLORIDA



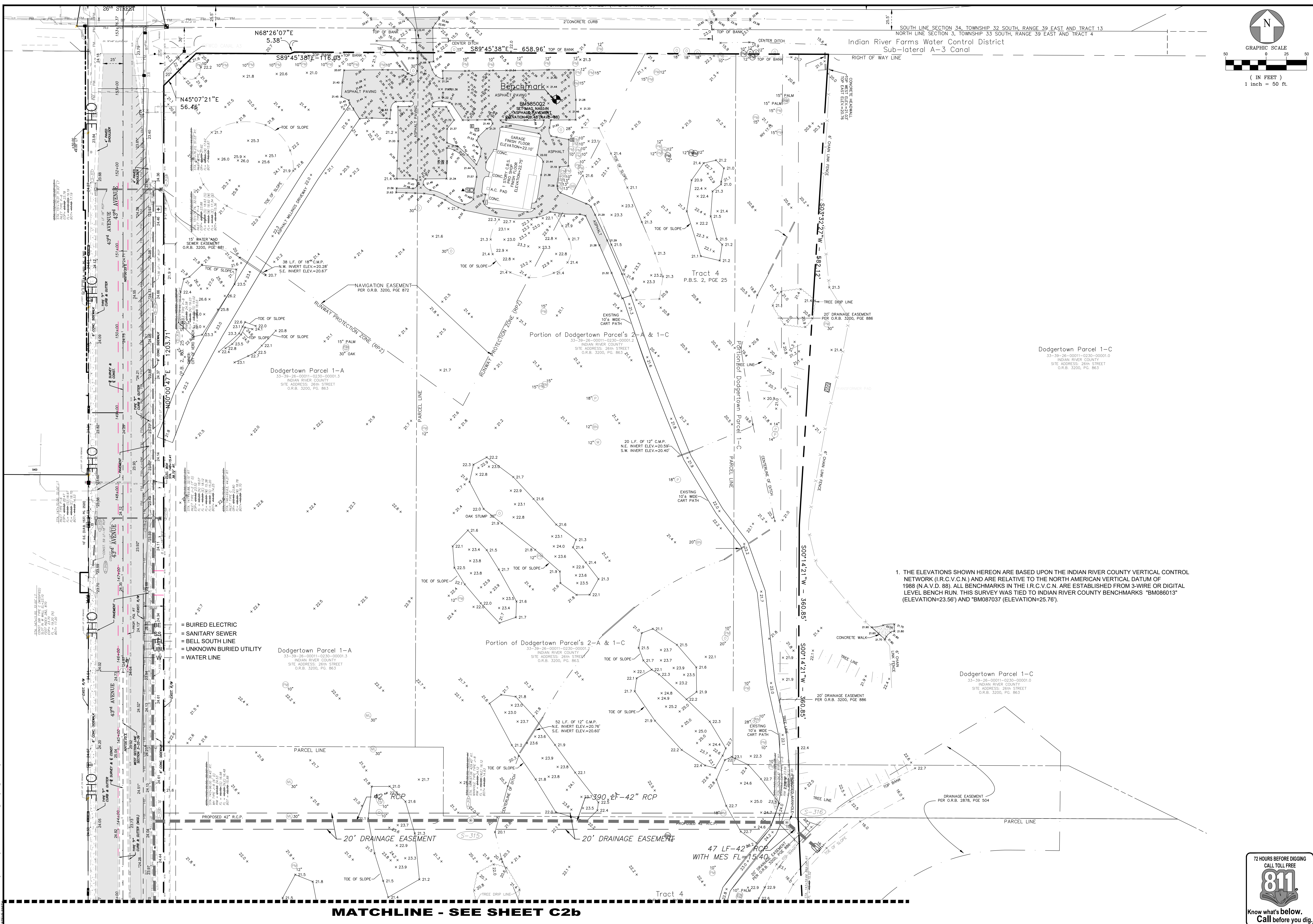
Aaron G. Stanton
 FL. P.E. #72460
 6/19/23

C1b

SHEET

19-0077

C:\DRAWINGS\2019\06\077 Drawings\Working Drawings\2019\06\077 C2 TECHNICAL NOTES AND SPEC.DWG
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 Know what's below. Call before you dig.

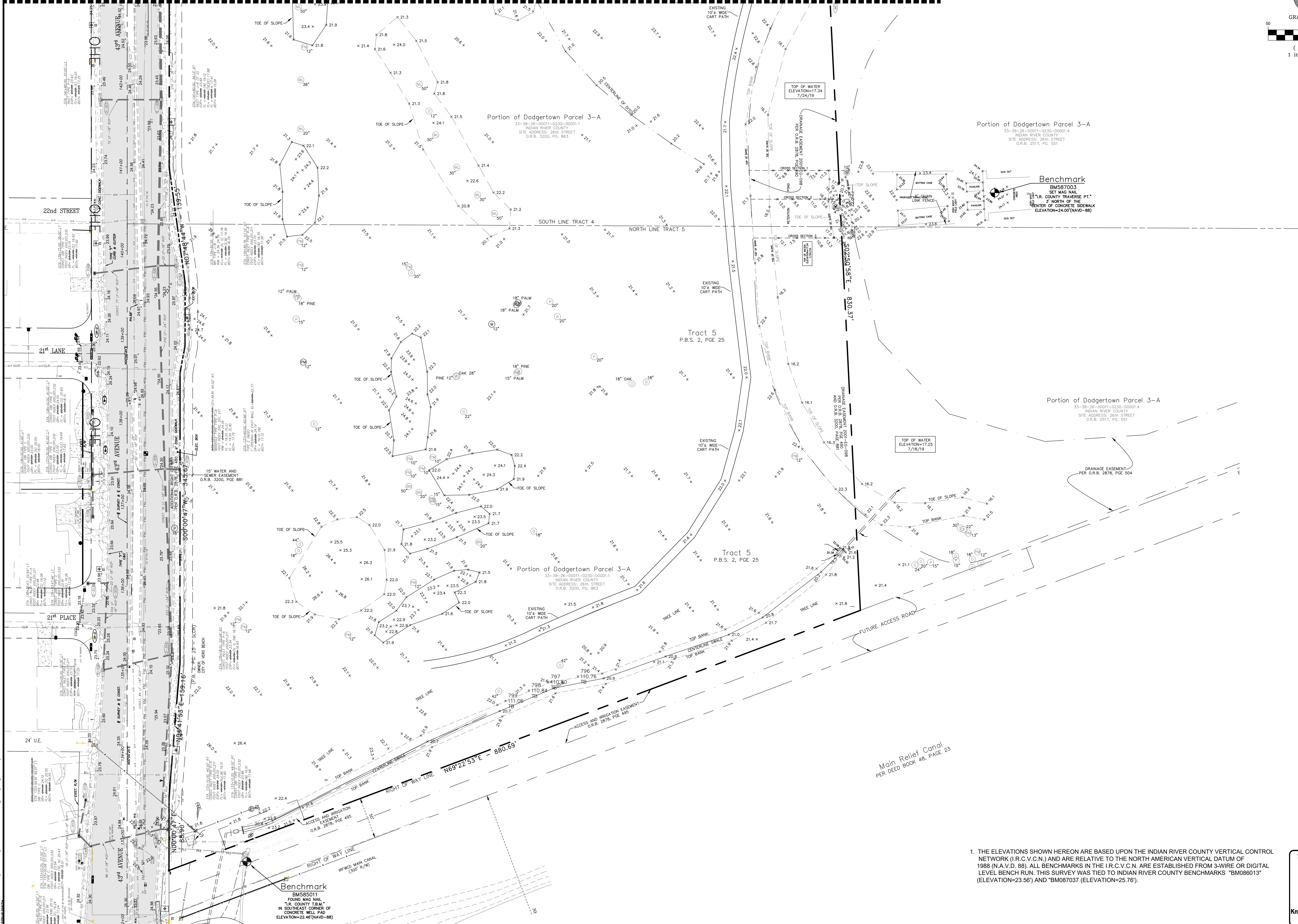
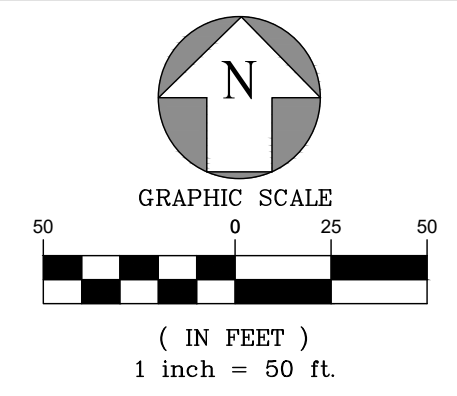


1. THE ELEVATIONS SHOWN HEREON ARE BASED UPON THE INDIAN RIVER COUNTY VERTICAL CONTROL NETWORK (I.R.C.V.C.N.) AND ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88). ALL BENCHMARKS IN THE I.R.C.V.C.N. ARE ESTABLISHED FROM 3-WIRE OR DIGITAL LEVEL BENCH RUN. THIS SURVEY WAS TIED TO INDIAN RIVER COUNTY BENCHMARKS "BM086013" (ELEVATION=23.56) AND "BM087037" (ELEVATION=25.76).

MATCHLINE - SEE SHEET C2b

<p>MBV ENGINEERING, INC. MOJA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728 180 S. 30TH STREET FT. PIERCE, FL. 34947 TEL: (888) 231-1100 FAX: (888) 231-1100</p>		<p>DATE: 06/16/2023</p> <p>REVISIONS:</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>06-09-2023</td> <td>1 REVISIONS PER 2023 BID</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	06-09-2023	1 REVISIONS PER 2023 BID
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<p>JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL</p>		<p>FLORIDA</p>						
<p>72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.</p>		<p>AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER</p> <p>AARON G. STANTON FL. P.E. #72460 6/19/23</p>						
<p>C2a</p>		<p>SHEET</p>						
<p>19-0077</p>		<p>DATE</p>						

MATCHLINE - SEE SHEET C2a



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DATE ISSUED	DATE	DATE ISSUED	06-09-2023

MBV ENGINEERING, INC.
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 189 S. 20TH STREET
 FT. PIERCE, FL 34931
 PH: (888) 443-3100
 FX: (888) 443-3100
 FT. PIERCE, FL 34931

EXISTING CONDITIONS
 PLAN - SOUTH SIDE

JACKIE ROBINSON TRAINING COMPLEX
 WALKING TRAIL
 CITY OF VERO BEACH
 FLORIDA

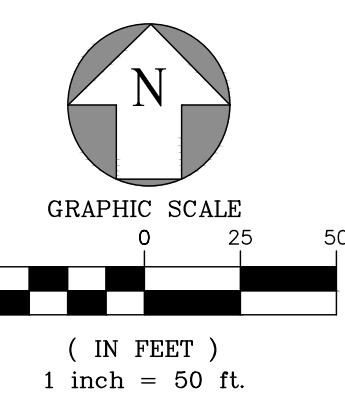
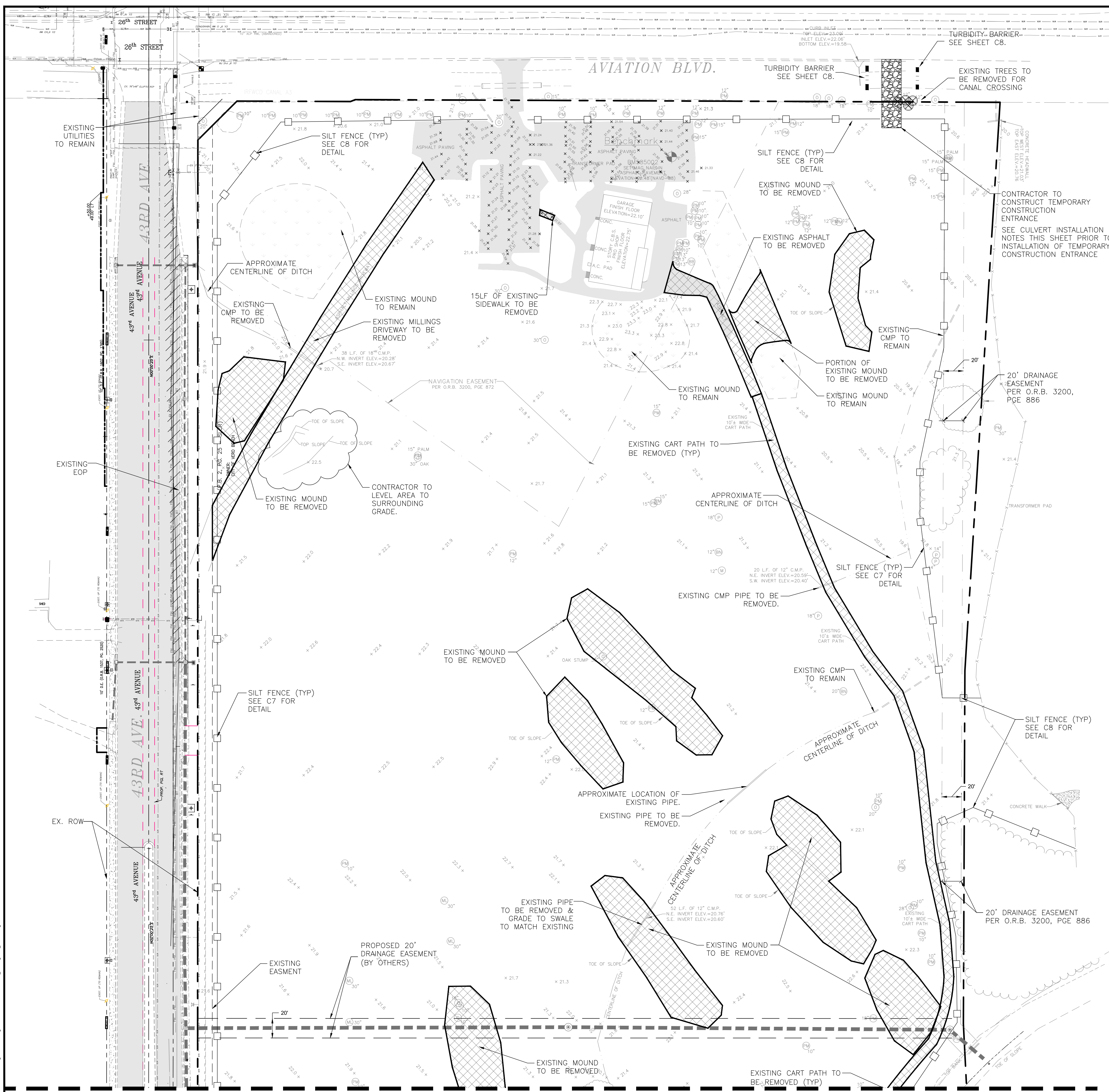
AARON G. STANTON
 LICENSE
 No. 72460
 STATE OF
 FLORIDA
 PROFESSIONAL ENGINEER

AARON G. STANTON
 FL P.E. #72460 6/19/23
C2b
 SHEET
 19-0077

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72 HOURS BEFORE DIGGING
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811
 Know what's below.
 Call before you dig.

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NOTE:
 BELOW CULVERT INSTALLATION / REMOVAL IS FOR SEQUENCE GUIDANCE. CONTRACTOR IS LIABLE FOR ALL MEANS AND METHODS FOR CONSTRUCTION OPERATIONS AND TO MAINTAIN EXISTING CANAL FLOWS AT ALL TIMES DURING THESE OPERATIONS.

CULVERT INSTALLATION SEQUENCE:
 1. CONTRACTOR TO INSTALL FLOATING TURBIDITY BARRIERS PER DETAILS ON SHEET C8.
 2. CONTRACTOR TO INSTALL CULVERT PIPE / EMBANKMENT SYSTEM PER DETAILS ON SHEET C6a & C7.
 3. CONTRACTOR TO REMOVE FLOATING TURBIDITY BARRIERS UPON COMPLETION AND ACCEPTANCE OF CULVERT PIPE / EMBANKMENT SYSTEM.

CULVERT REMOVAL SEQUENCE:
 1. CONTRACTOR TO INSTALL FLOATING TURBIDITY BARRIERS PER DETAILS ON SHEET C8.
 2. CONTRACTOR TO REMOVE EMBANKMENT MATERIAL AND PIPE.
 3. CONTRACTOR TO RE-GRADE CANAL BANK TO MATCH EXISTING AND STABILIZE TOB WITH SOD.
 4. CONTRACTOR TO REMOVE FLOATING TURBIDITY BARRIERS UPON COMPLETION AND ACCEPTANCE OF CULVERT PIPE / EMBANKMENT SYSTEM.

SEE SHEET C1b FOR GENERAL NOTES & SPECIFICATIONS

SEE SHEET C8 FOR EROSION CONTROL DETAILS

LEGEND

- EXISTING GRASS MOUNDS, CART PATH OR MILLINGS DRIVEWAY TO BE REMOVED AND LEVELED TO ADJACENT GRADE & SODDED.
- EXISTING ASPHALT
- PROPERTY LINE
- SILT FENCE
- TURBIDITY BARRIER
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM PIPE

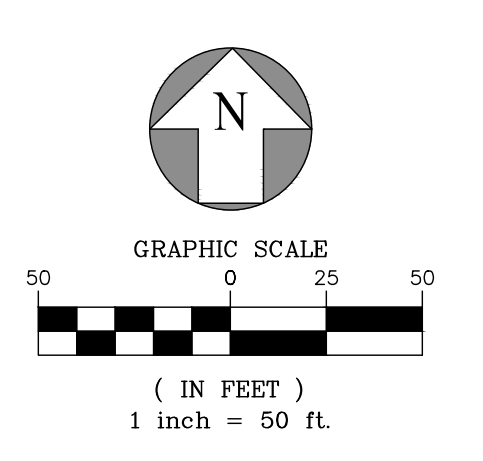
MATCHLINE - SEE SHEET C3b

MBV ENGINEERING, INC. <small>MOJA BOWLES WILLAMAZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728 1481 38TH STREET FORT WORTH, TEXAS 76104 TEL: (817) 441-4330 FAX: (817) 441-4331</small>	DEMOLITION & EROSION CONTROL PLAN - NORTH SIDE	JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL	FLORIDA CITY OF VERO BEACH		C3a SHEET						
JOB NO. 19-0077 DESIGNED AS DRAWN JDB DATE JAN. 10, 2020 CHECKED AS DATE ISSUED 06-09-2023	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ISSUE FOR PERMITS 2023/01/10</td> <td>06/09/2023</td> </tr> </tbody> </table>				NO.	DESCRIPTION	DATE	1	ISSUE FOR PERMITS 2023/01/10	06/09/2023	DATE
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MATCHLINE - SEE SHEET C3a



SEE SHEET C1b FOR GENERAL NOTES & SPECIFICATIONS

SEE SHEET C8 FOR EROSION CONTROL DETAILS

LEGEND

- EXISTING SW AND CURB TO BE DEMOLISHED
- EXISTING GRASS MOUNDS, CART PATH OR MILLINGS DRIVEWAY TO BE REMOVED AND LEVELED TO ADJACENT GRADE & SODDED.
- EXISTING ASPHALT
- PROPERTY LINE
- SILT FENCE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM PIPE



NO.	REVISIONS	DATE
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MBV ENGINEERING, INC.
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #5728
 1400 S. 20TH STREET
 FT. PIERCE, FL. 34949
 TEL: (888) 444-4444
 FAX: (888) 444-4444

DEMOLITION & EROSION CONTROL PLAN - SOUTH SIDE

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL

AARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

AARON G. STANTON
 FL. P.E. #72460 6/19/23
C3b
 SHEET
 19-0077

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SITE INFORMATION

SITE ADDRESS
SE CORNER OF AVIATION BLVD & 43RD AVE
VERO BEACH, FLORIDA 32960

OWNER/APPLICANT
INDIAN RIVER COUNTY

1801 27TH STREET
VERO BEACH, FLORIDA 32960

PHONE (772) 361-6000

ENGINEER
MBV ENGINEERING, INC.

1835 20TH STREET
VERO BEACH, FLORIDA 32960

PHONE (772) 569-0035

SURVEYOR
INDIAN RIVER COUNTY

1801 27TH STREET
VERO BEACH, FLORIDA 32960

TAX PARCEL I.D. NUMBER(S)
32-39-26-0001-1, 0230-00001.1, 12 & 13

ZONING LAND USE
AL1&X AL1&X

EXISTING SITE DATA

- SITE AREA = 1,534,406 SF
- EXISTING BUILDING AREA = 35,27 AC
- EXISTING PAVEMENT AREA = 0.27 AC
- EXISTING STABILIZED PATH AREA (TBR) = 0.77 %
- EXISTING MILLINGS AREA (TBR) = 0.51 AC
- EXISTING ASPHALT AREA (TBR) = 0.57 %
- TOTAL IMPERVIOUS AREA = 1.07 AC
- TOTAL OPEN AREA = 1,498,936 SF
- TBR - TO BE REMOVED = 34.15 AC
- TBR - TO BE REMOVED = 90.86 %

PROPOSED SITE DATA

- SITE AREA = 1,534,406 SF
- EXISTING BUILDING AREA TO REMAIN = 35.22 AC
- EXISTING PAVEMENT AREA TO REMAIN = 0.09 AC
- EXISTING STABILIZED PATH AREA TO REMAIN = 0.25 %
- PROPOSED MILLINGS WALKING TRAIL AREA = 46,257 SF
- PROPOSED ASPHALT WALKING TRAIL AREA = 1.06 AC
- PROPOSED CONCRETE AREA = 76,470 SF
- PROPOSED ASPHALT AREA = 1,626 SF
- PROPOSED CONCRETE AREA = 0.44 AC
- TOTAL OPEN AREA = 1,432,859 SF
- TOTAL IMPERVIOUS AREA = 31.65 AC
- NET NEW IMPERVIOUS AREA = 124.352 SF
- NET NEW IMPERVIOUS AREA = 2.86 AC
- NET NEW IMPERVIOUS AREA = 8.1 %

PERMITS REQUIRED

CITY OF VERO BEACH TREE REMOVAL PERMIT
CITY OF VERO BEACH LAND CLEARING PERMIT
INDIAN RIVER COUNTY WATER CONTROL DISTRICT EXEMPTION LETTER
FDEP NOTICE OF INTENT

FLOOD ZONE

THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 'X' PER
FLOOD INSURANCE RATE MAP #12061C0243 H, DATED DEC. 4TH, 2012.

LEGAL DESCRIPTION

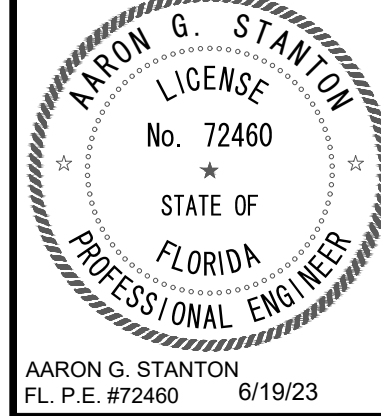
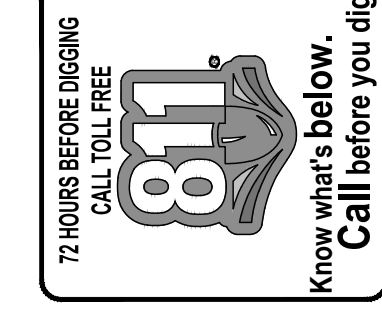
THAT PART OF LOT 20, WAUREGAN SUBDIVISION, LYING EAST OF WAUREGAN AVENUE,
AND BEING THE PORTION OF SAID LOT 20, WAUREGAN SUBDIVISION, DESCRIBED AS
FOLLOWING, BEGINNING AT THE POINT OF BEGINNING CORNER OF THE INTERSECTION OF THE
WESTERLY BOUNDARY OF U.S. HIGHWAY NO. 1, WITH THE SOUTHEASTERLY BOUNDARY OF
LOT 20, WAUREGAN; THENCE PROCEED NORTHWESTERLY ALONG THE WESTERLY
RIGHT-OF-WAY BOUNDARY OF SAID U.S. HIGHWAY NO. 1, A DISTANCE OF 318.76 FEET; THENCE PROCEED
SOUTHWESTERLY ALONG THE COMMON BOUNDARY BETWEEN

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE COMMENCING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED AGENCIES AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
5. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PROPER WRITTEN APPROVAL OF THE ENGINEER.
6. ENGINEER SHALL BE NOTIFIED AT LEAST 72 HOURS IN ADVANCE FOR ANY INSPECTION.
7. MINIMUM COVER OF ALL UTILITIES SHALL BE 36" UNLESS STATED OTHERWISE.
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SO/D ALL DISTURBED AREAS UPON COMPLETION.
10. CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT, FEDERAL AGENCY REQUIREMENTS FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
12. ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
13. CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
14. CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
15. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
16. MAINTENANCE OF TRAFFIC SHALL BE ACCORDING TO FOOT INDEXES.
17. ALL APPROVED PERMIT CONDITIONS INCLUDING BUT NOT LIMITED TO EROSION CONTROL SHALL BE STRICTLY ENFORCED PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.
18. IN ADDITION TO SECTION 706 OF FDOT'S STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, ALL SIGN SHEET MATERIAL SHALL BE DIAMOND GRADE D63 MANUFACTURED BY 3M COMPANY OR APPROVED EQUAL. SIGN POSTS/SUPPORTS SHALL BE AS PER INDIAN RIVER COUNTY STANDARDS.
19. ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
20. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 17346, LATEST EDITION.
21. ALL STIPING WITHIN COUNTY RIGHT OF WAY SHALL BE RETRO REFLECTIVE TRAFFIC PAINT (THERMOPLASTIC).

LEGEND

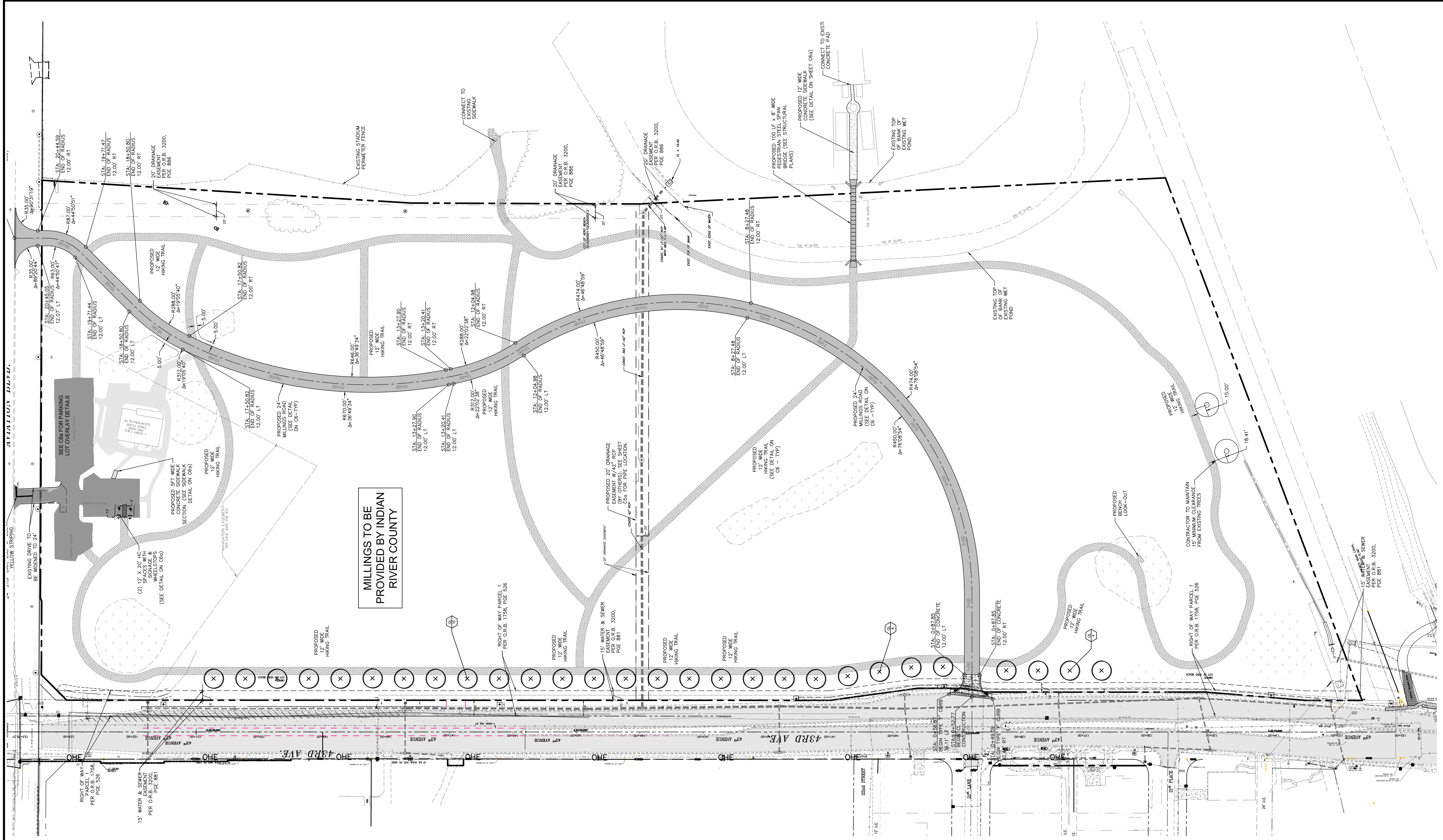
- EXISTING ASPHALT
- EXISTING PARKING LOT OVERLAY
- PROPOSED ASPHALT MILLINGS ROAD
- PROPOSED WALKING TRAIL MILLINGS



AARON G. STANTON
FL. P.E. #72460 6/19/23

C4a
SHEET

19-0077



OVERALL SITE PLAN
SCALE: 1" = 50'



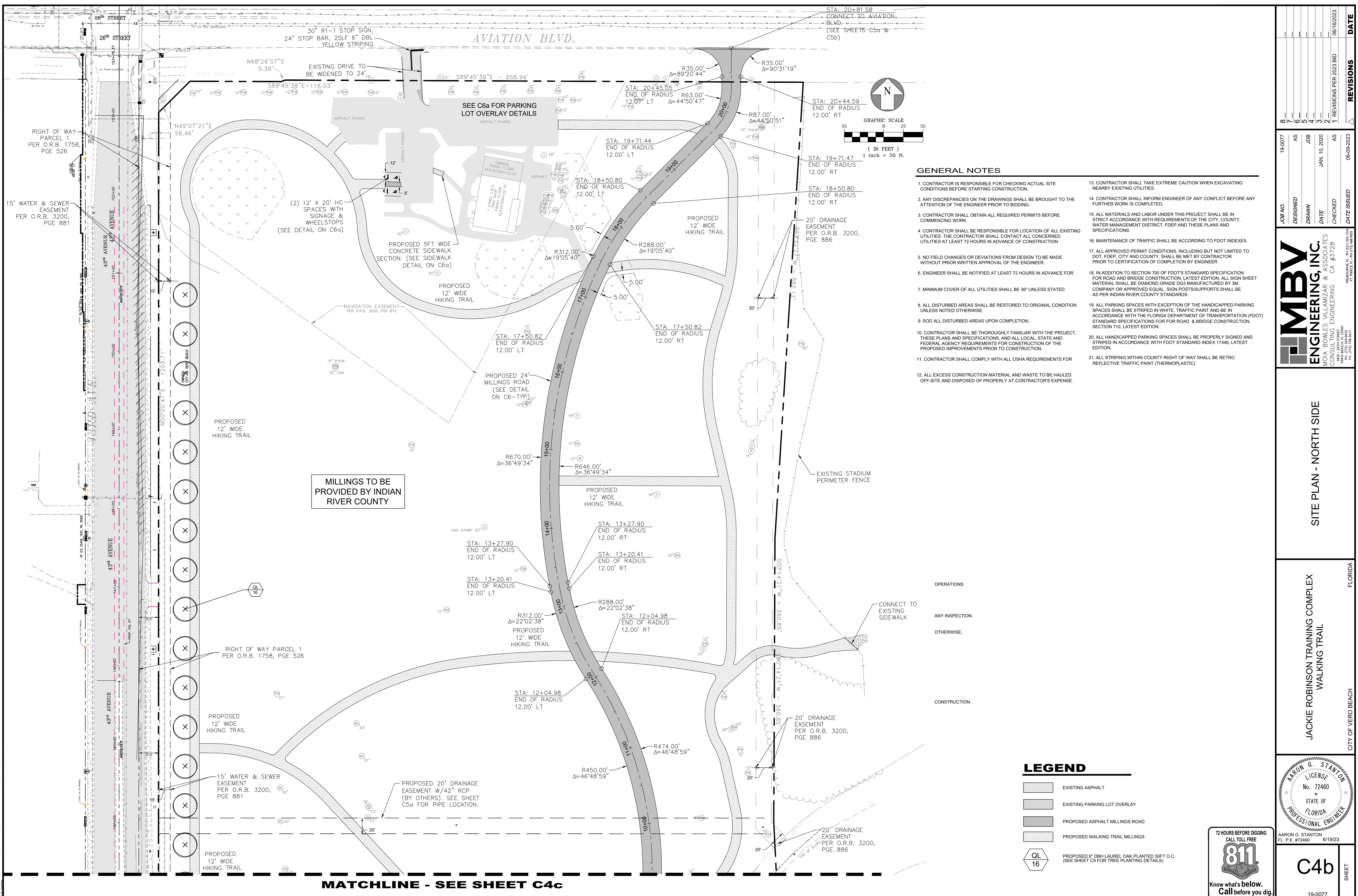
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MBV ENGINEERING, INC.
MOYA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 20TH STREET
VERO BEACH, FLORIDA 32960
PH: (772) 569-0035
FX: (772) 361-6000

OVERALL SITE PLAN

**JACKIE ROBINSON TRAINING COMPLEX
WALKING TRAIL**
CITY OF VERO BEACH

19-0077



GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING.
3. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE COMMENCING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION.
5. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
6. ENGINEER SHALL BE NOTIFIED AT LEAST 72 HOURS IN ADVANCE FOR
7. MINIMUM COVER OF ALL UTILITIES SHALL BE 36" UNLESS STATED
8. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
9. SOD ALL DISTURBED AREAS UPON COMPLETION.
10. CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT, THESE PLANS AND SPECIFICATIONS, AND ALL LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR
12. ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAUL OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
13. CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
14. CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
15. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY, COUNTY, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
16. MAINTENANCE OF TRAFFIC SHALL BE ACCORDING TO FDOT INDEXES.
17. ALL APPROVED PERMIT CONDITIONS, INCLUDING BUT NOT LIMITED TO DOT, FDEP, CITY AND COUNTY, SHALL BE MET BY CONTRACTOR PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.
18. IN ADDITION TO SECTION 700 OF FDOT'S STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, ALL SIGN SHEET MATERIAL SHALL BE DIAMOND GRADE ODS MANUFACTURED BY 3M COMPANY OR APPROVED EQUAL. SIGN POSTS/SUPPORTS SHALL BE AS PER INDIAN RIVER COUNTY STANDARDS.
19. ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
20. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 17346, LATEST EDITION.
21. ALL STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE RETRO REFLECTIVE TRAFFIC PAINT (THERMOPLASTIC).

LEGEND

- EXISTING ASPHALT
- EXISTING PARKING LOT OVERLAY
- PROPOSED ASPHALT MILLINGS ROAD
- PROPOSED WALKING TRAIL MILLINGS
- PROPOSED 6" DBH LAUREL OAK PLANTED 50FT O.C. (SEE SHEET C9 FOR TREE PLANTING DETAILS)

OPERATIONS.
ANY INSPECTION.
OTHERWISE.
CONSTRUCTION.

MILLINGS TO BE PROVIDED BY INDIAN RIVER COUNTY

MATCHLINE - SEE SHEET C4c

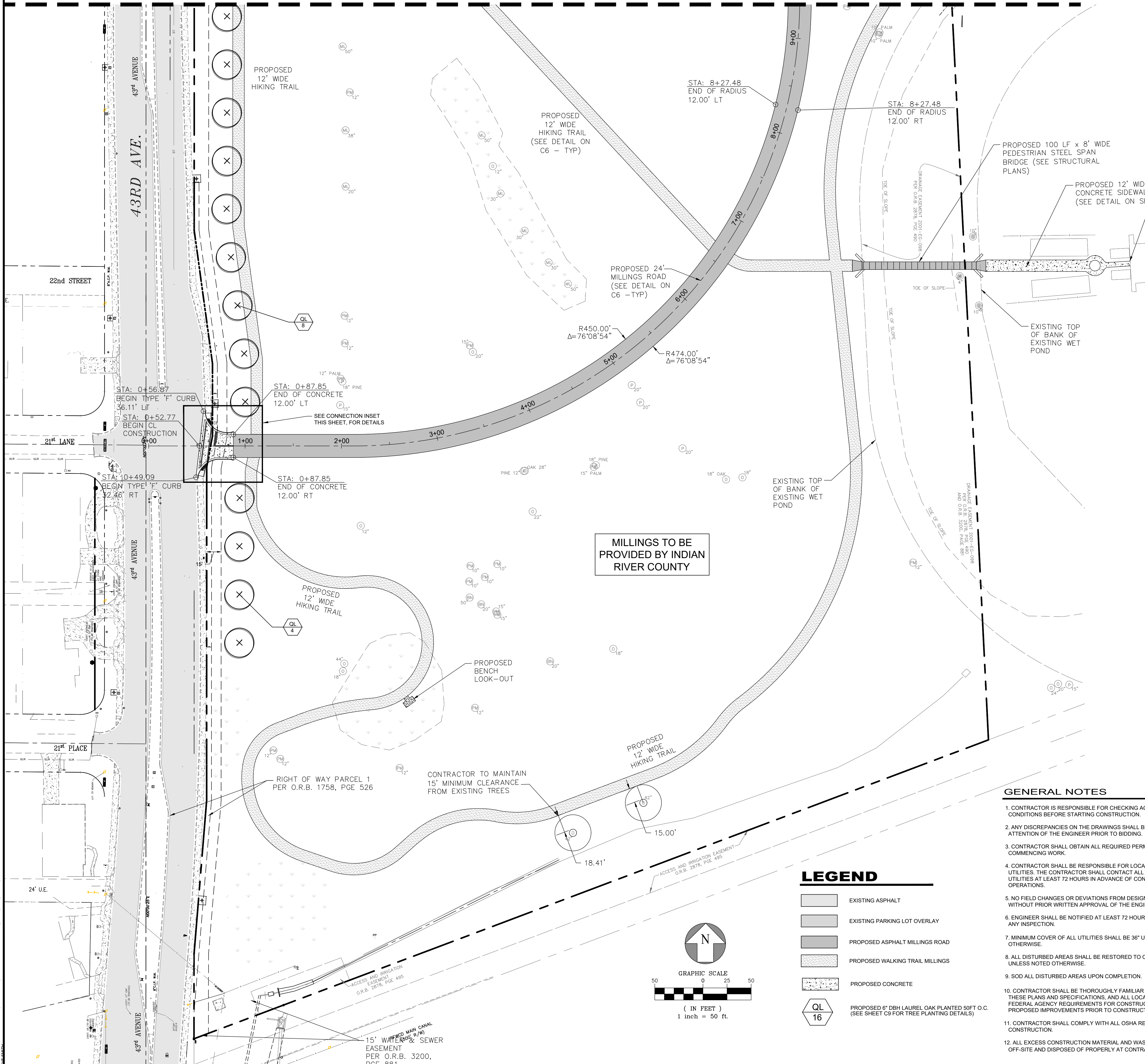
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DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED	REVISIONS
1 REVISIONS PER 2023 BID					DATE
ENGINEERING, INC. MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728 <small>1800 S. 20TH STREET WEST PALM BEACH, FL 33411 TEL: (561) 844-2330 FAX: (561) 783-1517</small>					
SITE PLAN - NORTH SIDE					
JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL					
FLORIDA CITY OF VERO BEACH					
AARON G. STANTON FL. P.E. #72460 6/19/23					
C4b					
SHEET 19-0077					

72 HOURS BEFORE DIGGING
CALL TOLL FREE

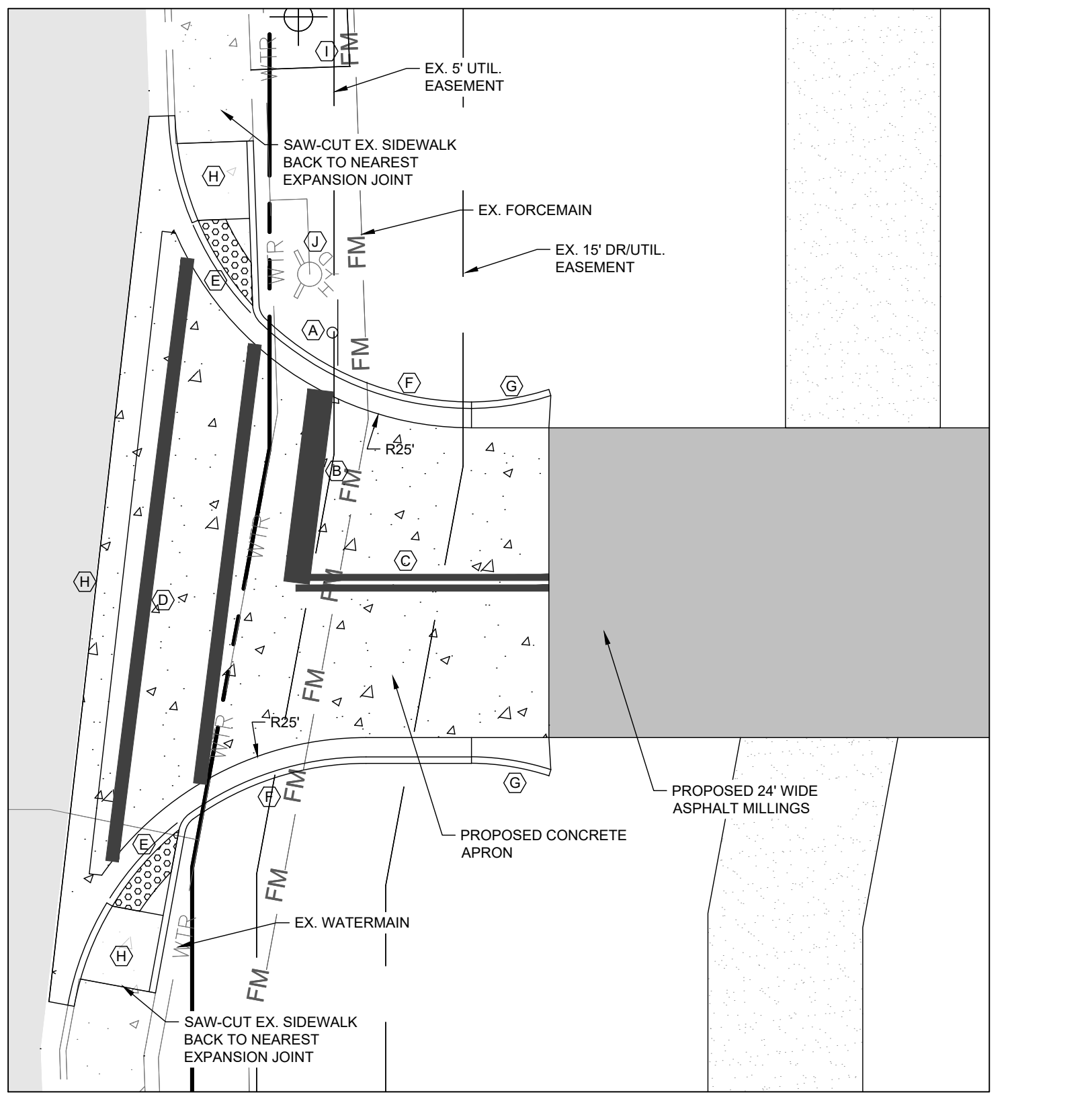
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Call before you dig.

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MATCHLINE - SEE SHEET C4b



SIGNAGE & PAVEMENT MARKING SCHEDULE		
SIGN ID NUMBER	SIZE	DESIGNATION / NOTES
(A)	30"	R1-1 "STOP" SIGN
(B)	24"	SOLID WHITE STOP BAR
(C)	6"	19 LF DOUBLE YELLOW STRIPE
(D)	12"	6' WIDE PAINTED CROSSWALK PER FDOT INDEX #711-001
(E)		DETECTABLE WARNINGS PER FDOT INDEX #522-002 CURRENT EDITION (YELLOW)
(F)		TYPE 'F' CURB AND GUTTER PER FDOT INDEX #520-001 CURRENT EDITION
(G)		TYPE 'F' FLARED END PER FDOT INDEX #520-001 CURRENT EDITION
(H)		SIDEWALK CURB RAMP (CR-G, OPT A) PER FDOT INDEX #522-002 CURRENT EDITION
(I)		EXISTING CONCRETE LIGHT POLE TO REMAIN
(J)		EXISTING FIRE HYDRANT TO REMAIN
(K)		DROP CURB AND GUTTER PER FDOT INDEX #520-001 CURRENT EDITION



CONNECTION INSET
SCALE: 1" = 10'

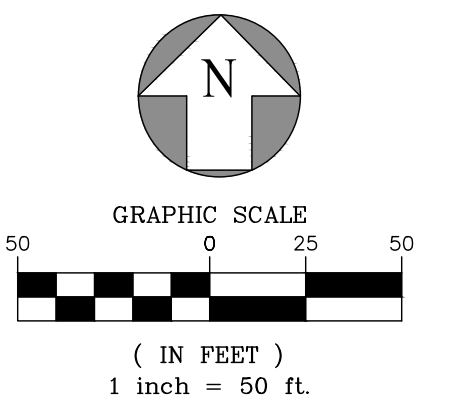
MILLINGS TO BE PROVIDED BY INDIAN RIVER COUNTY

GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING.
- CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE COMMENCING WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- ENGINEER SHALL BE NOTIFIED AT LEAST 72 HOURS IN ADVANCE FOR ANY INSPECTION.
- MINIMUM COVER OF ALL UTILITIES SHALL BE 36" UNLESS STATED OTHERWISE.
- ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
- SOD ALL DISTURBED AREAS UPON COMPLETION.
- CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT, THESE PLANS AND SPECIFICATIONS, AND ALL LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
- ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
- CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
- ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY, COUNTY, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
- MAINTENANCE OF TRAFFIC SHALL BE ACCORDING TO FDOT INDEXES.
- ALL APPROVED PERMIT CONDITIONS, INCLUDING BUT NOT LIMITED TO DOT, FDEP, CITY AND COUNTY, SHALL BE MET BY CONTRACTOR PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.
- IN ADDITION TO SECTION 700 OF FDOT'S STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, ALL SIGN SHEET MATERIAL SHALL BE DIAMOND GRADE D33 MANUFACTURED BY 3M COMPANY OR APPROVED EQUAL. SIGN POSTS/SUPPORTS SHALL BE AS PER INDIAN RIVER COUNTY STANDARDS.
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LEGEND

- EXISTING ASPHALT
- EXISTING PARKING LOT OVERLAY
- PROPOSED ASPHALT MILLINGS ROAD
- PROPOSED WALKING TRAIL MILLINGS
- PROPOSED CONCRETE
- PROPOSED 6" DBH LAUREL OAK PLANTED 50FT O.C. (SEE SHEET C9 FOR TREE PLANTING DETAILS)



NO.	DATE	REVISIONS
1	06/16/2023	1 REVISIONS PER 2023 BID

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED
19-0077	AS	JDB	JAN. 10, 2020	AS	06-09-2023

MBV ENGINEERING, INC.
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 HELDORNE, FL. PH: (351) 331-1310
 1801 S. 20TH STREET
 FT. PIERCE, FL. 34949-4600
 PH: (772) 644-2330
 FX: (772) 783-8157

SITE PLAN - SOUTH SIDE

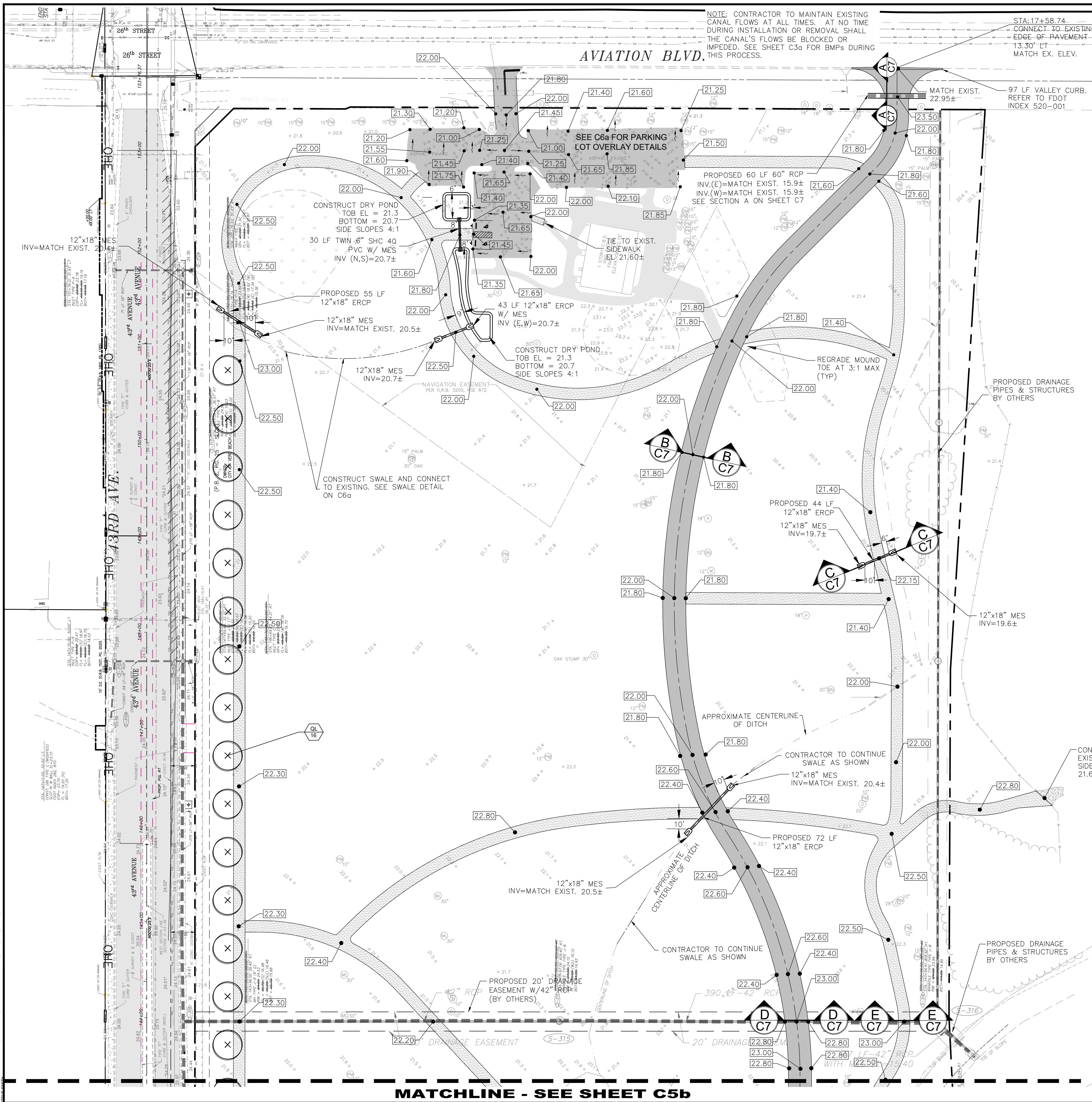
JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL
 CITY OF VERO BEACH
 FLORIDA

AARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

AARON G. STANTON
 FL. P.E. #72460 6/19/23
C4c
 SHEET
 19-0077

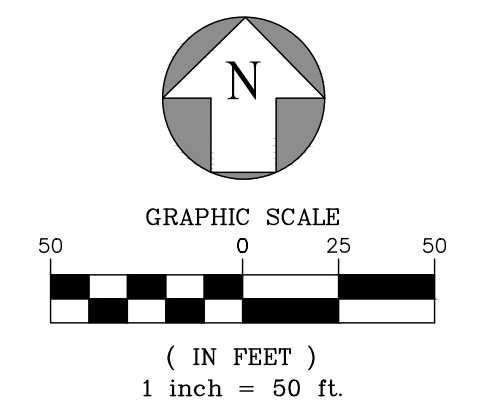
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 Call before you dig.

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NOTE: CONTRACTOR TO MAINTAIN EXISTING CANAL FLOWS AT ALL TIMES. AT NO TIME DURING INSTALLATION OR REMOVAL SHALL THE CANAL FLOWS BE BLOCKED OR IMPEDED. SEE SHEET C3c FOR BMPs DURING THIS PROCESS.

STA: 17+58.74
CONNECT TO EXISTING EDGE-OF-PAVEMENT 13.30' LT MATCH EX. ELEV.



NOTE: BELOW CULVERT INSTALLATION / REMOVAL IS FOR SEQUENCE GUIDANCE. CONTRACTOR IS LIABLE FOR ALL MEANS AND METHODS FOR CONSTRUCTION OPERATIONS AND TO MAINTAIN EXISTING CANAL FLOWS AT ALL TIMES DURING THESE OPERATIONS.

- CULVERT INSTALLATION SEQUENCE:**
1. CONTRACTOR TO INSTALL FLOATING TURBIDITY BARRIERS PER DETAILS ON SHEET C8.
 2. CONTRACTOR TO INSTALL CULVERT PIPE / EMBANKMENT SYSTEM PER DETAILS ON SHEET C6a & C7.
 3. CONTRACTOR TO REMOVE FLOATING TURBIDITY BARRIERS UPON COMPLETION AND ACCEPTANCE OF CULVERT PIPE / EMBANKMENT SYSTEM.

- CULVERT REMOVAL SEQUENCE:**
1. CONTRACTOR TO INSTALL FLOATING TURBIDITY BARRIERS PER DETAILS ON SHEET C8.
 2. CONTRACTOR TO REMOVE EMBANKMENT MATERIAL AND PIPE.
 3. CONTRACTOR TO RE-GRADE CANAL BANK TO MATCH EXISTING AND STABILIZE TOB WITH SOD.
 4. CONTRACTOR TO REMOVE FLOATING TURBIDITY BARRIERS UPON COMPLETION AND ACCEPTANCE OF CULVERT PIPE / EMBANKMENT SYSTEM.

SEE SHEET C1b FOR GENERAL NOTES & SPECIFICATIONS

SEE SHEET C7 FOR CROSS-SECTIONS

LEGEND

- EXISTING ASPHALT
- EXISTING PARKING LOT OVERLAY
- PROPOSED ASPHALT MILLINGS ROAD
- PROPOSED WALKING TRAIL MILLINGS

MATCHLINE - SEE SHEET C5b

NO.	REVISIONS	DATE
1	REVISED PER COMMENTS FROM BID	06/19/2023
2	REVISED PER COMMENTS FROM BID	06/05/2020
3		
4		
5		
6		
7		
8		

19-0071	AS	JDB	JAN. 10, 2020	AS	06-09-2023
DESIGNED				CHECKED	
DRAWN				DATE ISSUED	

MBV ENGINEERING, INC.
MOIRA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1800 S. 30TH STREET
MIAMI, FL 33130
PH: (772) 844-2330
FX: (772) 783-8147
FL PRCE: FL-PR-1774-46900

PAVING, GRADING, AND DRAINAGE PLAN - NORTH SIDE

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL
FLORIDA
CITY OF VERO BEACH

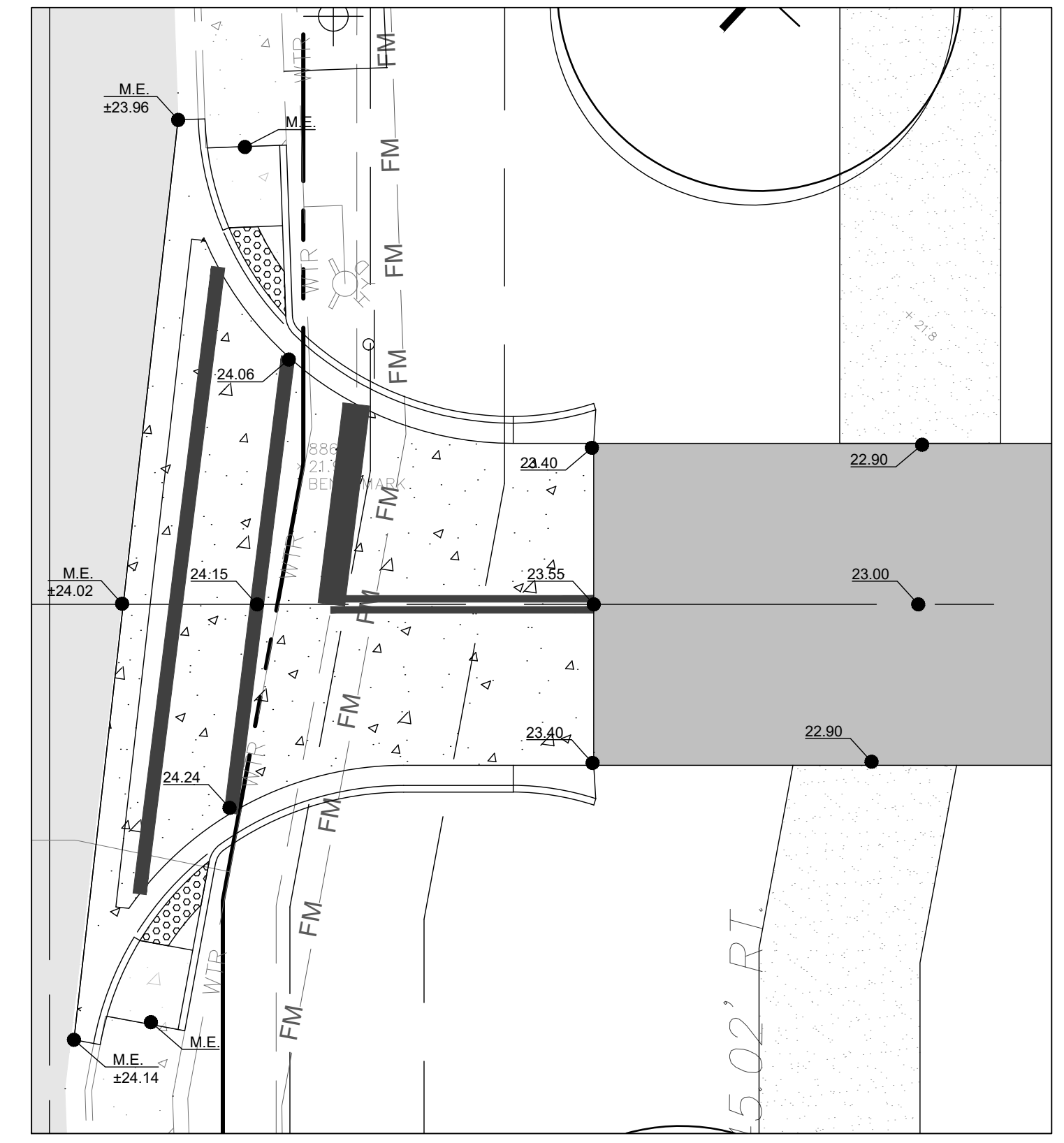
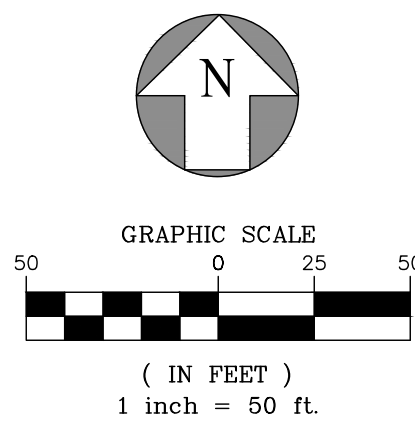
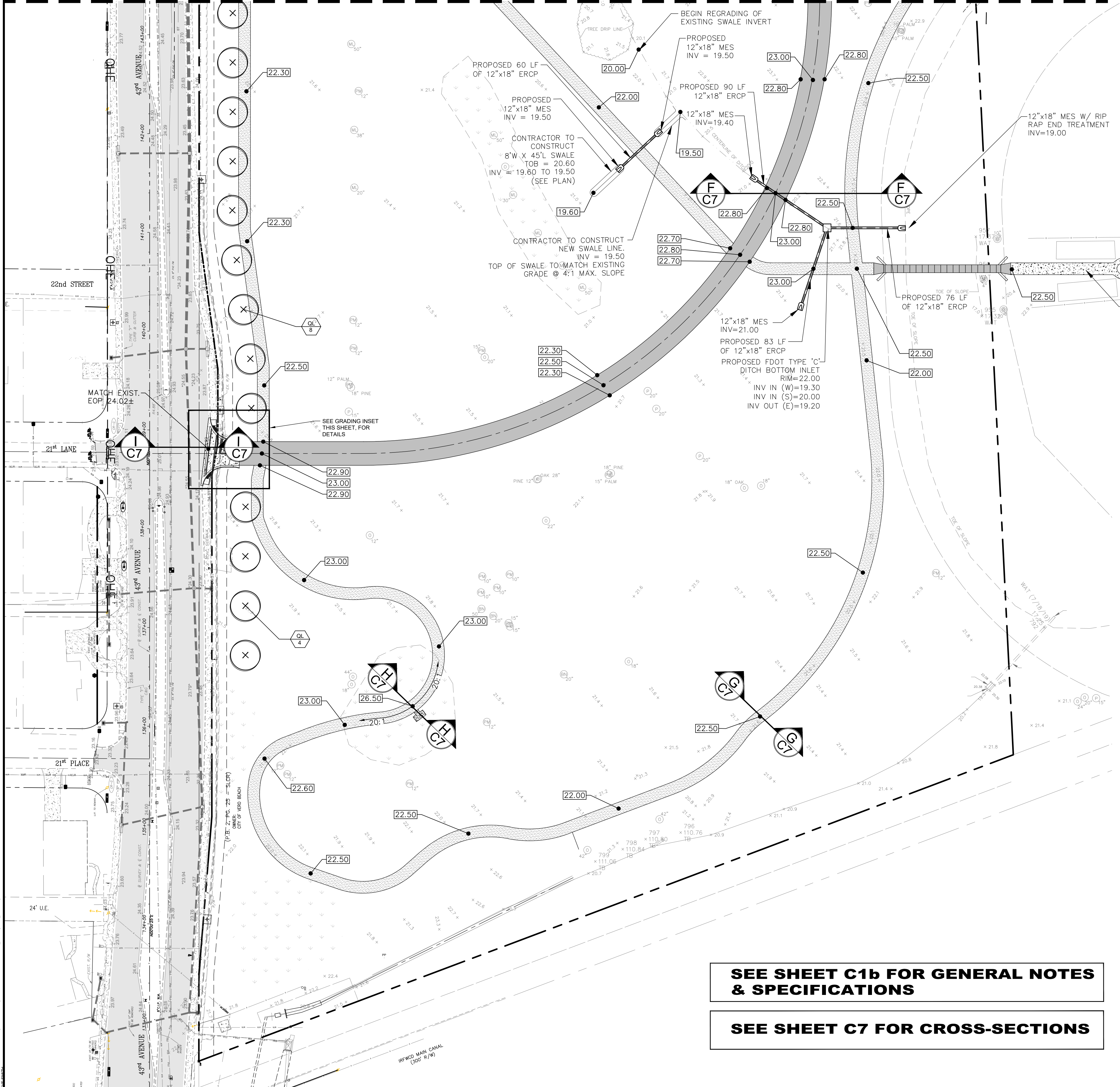
AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

C5a
SHEET
19-0077

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MATCHLINE - SEE SHEET C5a



GRADING INSET

SCALE: 1"=10'

SEE SHEET C1b FOR GENERAL NOTES & SPECIFICATIONS

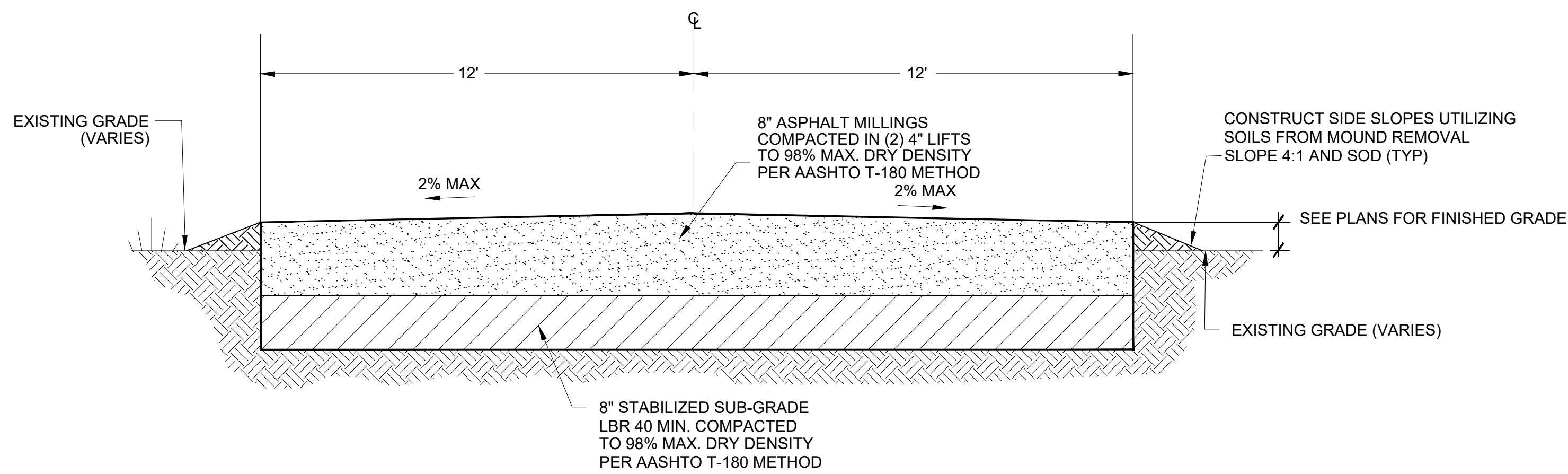
SEE SHEET C7 FOR CROSS-SECTIONS

LEGEND

	EXISTING ASPHALT
	EXISTING PARKING LOT OVERLAY
	PROPOSED ASPHALT MILLINGS ROAD
	PROPOSED WALKING TRAIL MILLINGS
	PROPOSED CONCRETE

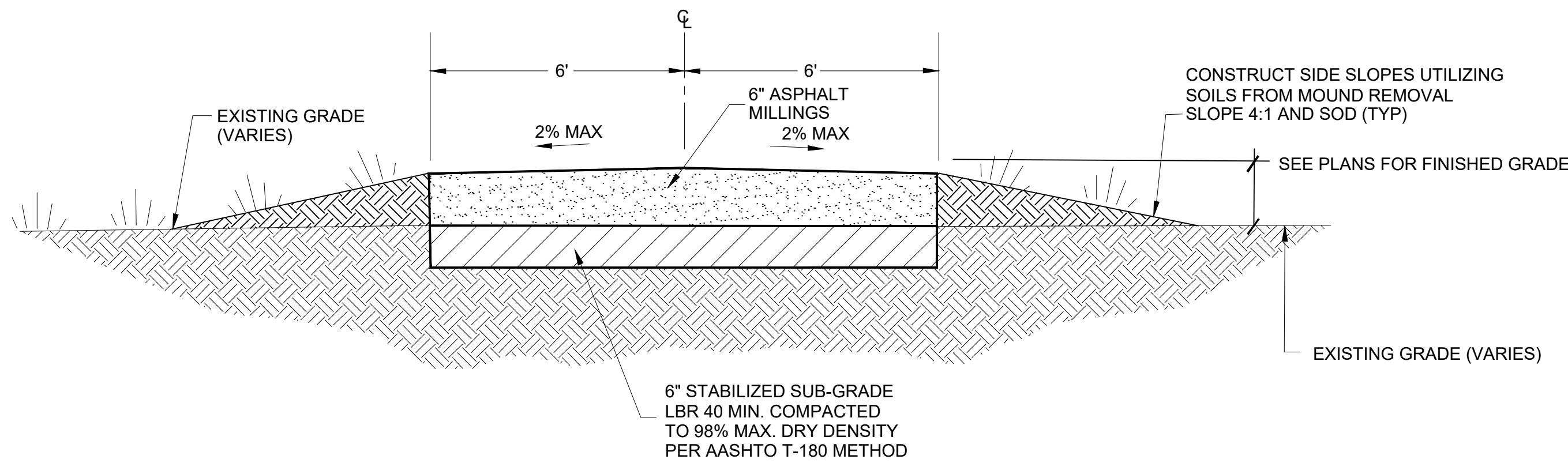


<p>19-0077</p> <p>AS</p> <p>JDB</p> <p>JAN. 10, 2020</p> <p>AS</p> <p>06-09-2023</p>	<p>DESIGNED</p> <p>DRAWN</p> <p>CHECKED</p> <p>DATE ISSUED</p>	<p>JOB NO.</p> <p>19-0077</p>	<p>DATE</p> <p>06/16/2023</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 15%;">DESCRIPTION</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>1</td> <td>REVISED PER PERMITS</td> <td>06/16/2023</td> </tr> </table>	NO.	DESCRIPTION	DATE	1	REVISED PER PERMITS	06/16/2023	<p>DATE</p> <p>06/16/2023</p>
NO.	DESCRIPTION	DATE									
1	REVISED PER PERMITS	06/16/2023									
<p>MBV ENGINEERING, INC.</p> <p>MOYA BOWLES VILLAMIZAR & ASSOCIATES</p> <p>CONSULTING ENGINEERING CA #3728</p> <p>1800 S. 20TH STREET MIAMI, FL 33135 PH: (772) 644-2330 FX: (772) 644-2337</p>											
<p>PAVING, GRADING, AND DRAINAGE</p> <p>PLAN - SOUTH SIDE</p>											
<p>JACKIE ROBINSON TRAINING COMPLEX</p> <p>WALKING TRAIL</p> <p>CITY OF VERO BEACH</p> <p>FLORIDA</p>											
<p>AARON G. STANTON</p> <p>LICENSE No. 72460</p> <p>STATE OF FLORIDA</p> <p>PROFESSIONAL ENGINEER</p>											
<p>AARON G. STANTON</p> <p>FL P.E. #72460 6/19/23</p>											
<p>C5b</p> <p>SHEET</p> <p>19-0077</p>											



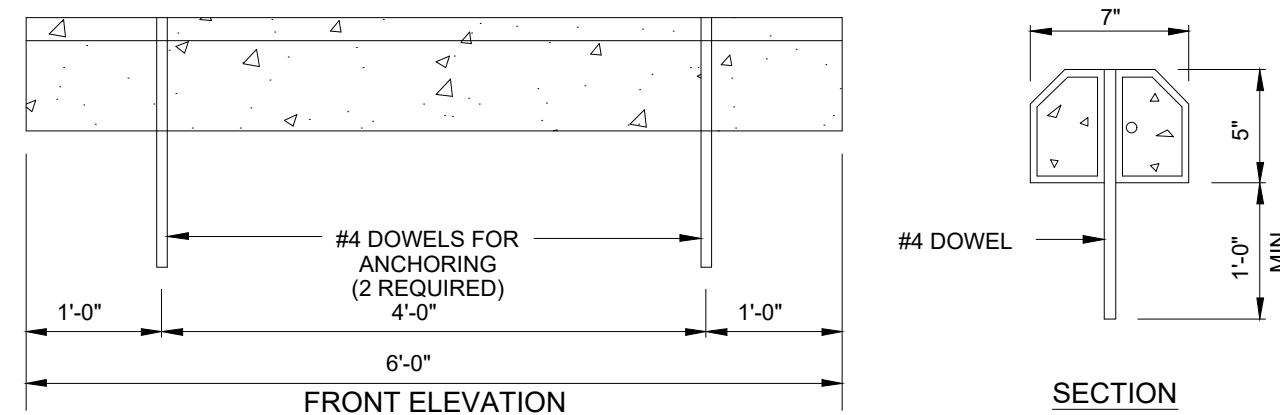
TYPICAL ASPHALT MILLINGS DRIVE AISLE

NTS



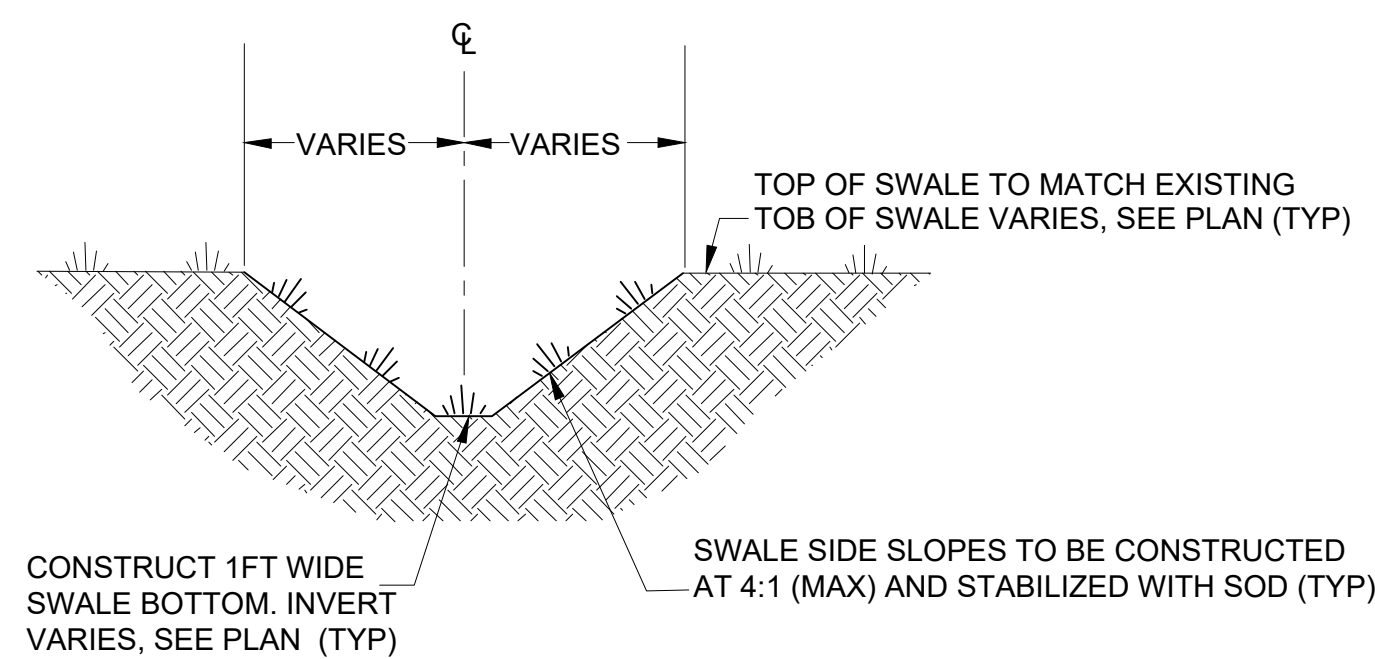
TYPICAL ASPHALT MILLINGS WALKING TRAIL

NTS



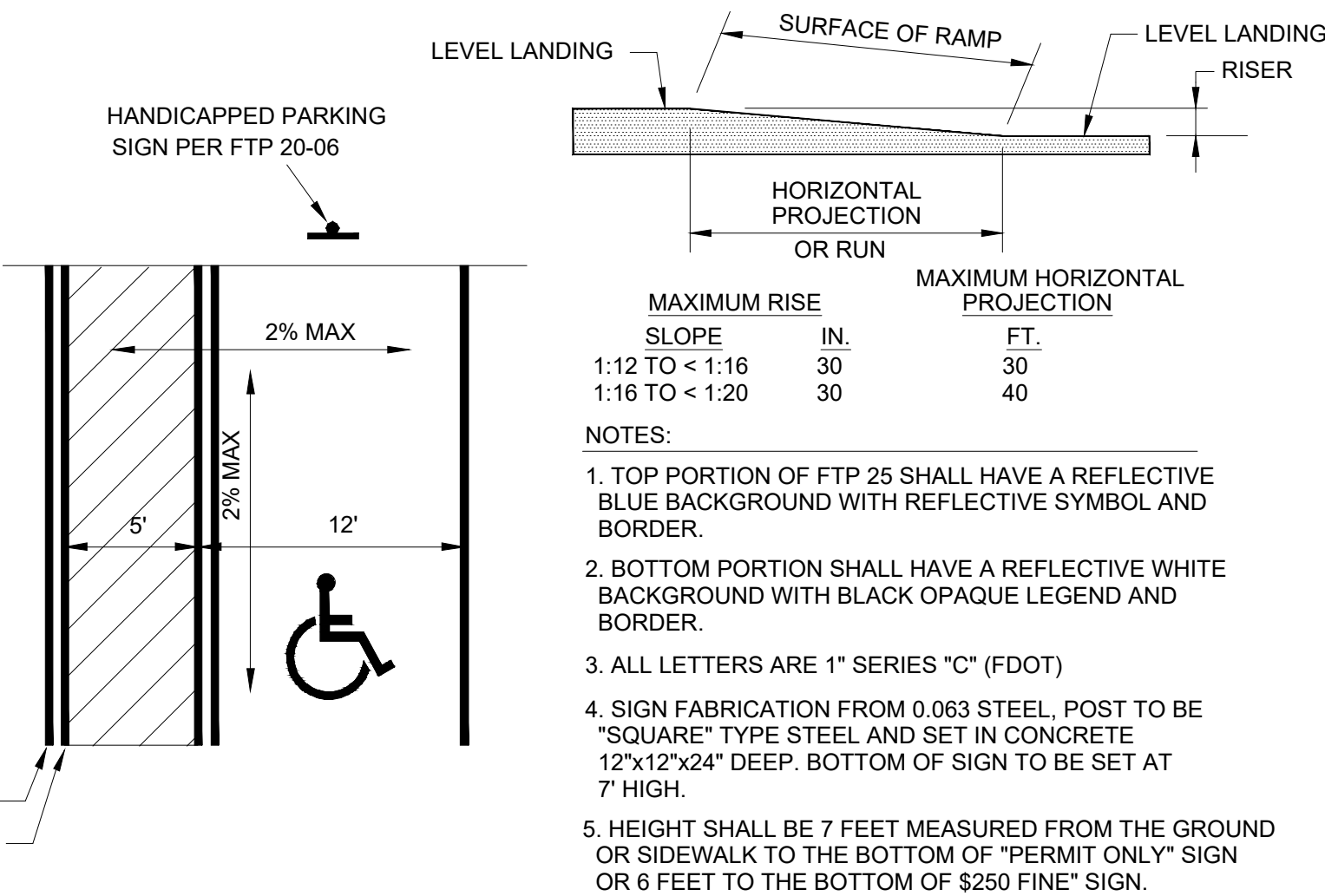
PRE-CAST CONCRETE WHEEL STOP DETAIL (HANDICAP SPACES ONLY)

NTS



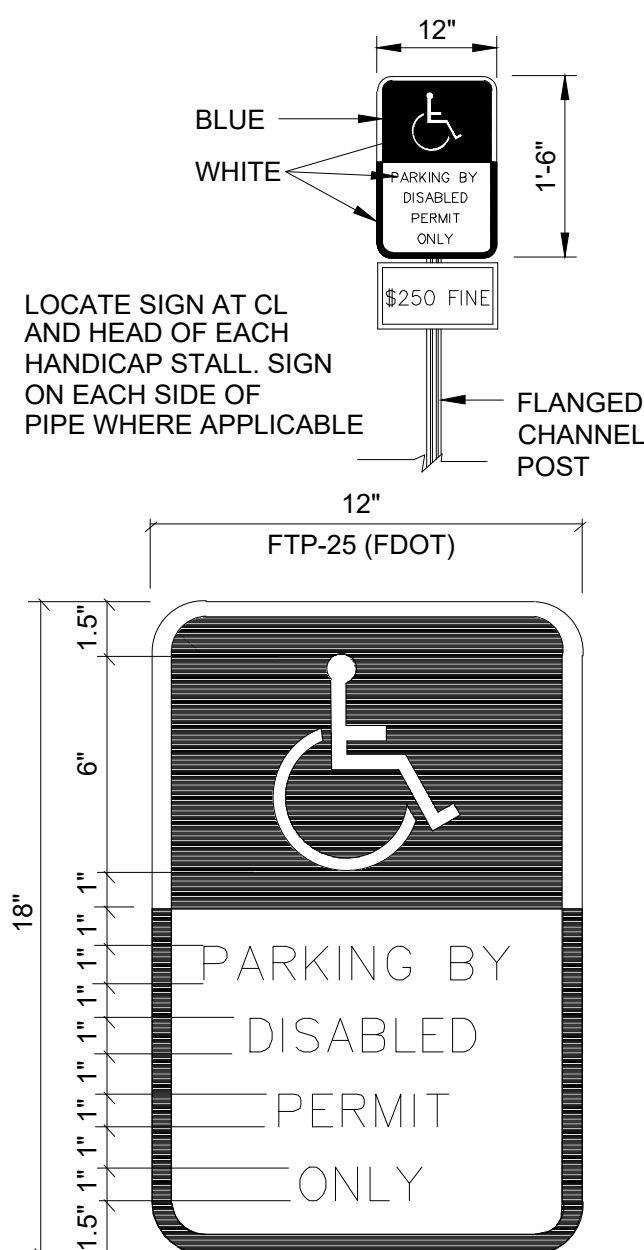
SWALE DETAIL

NTS



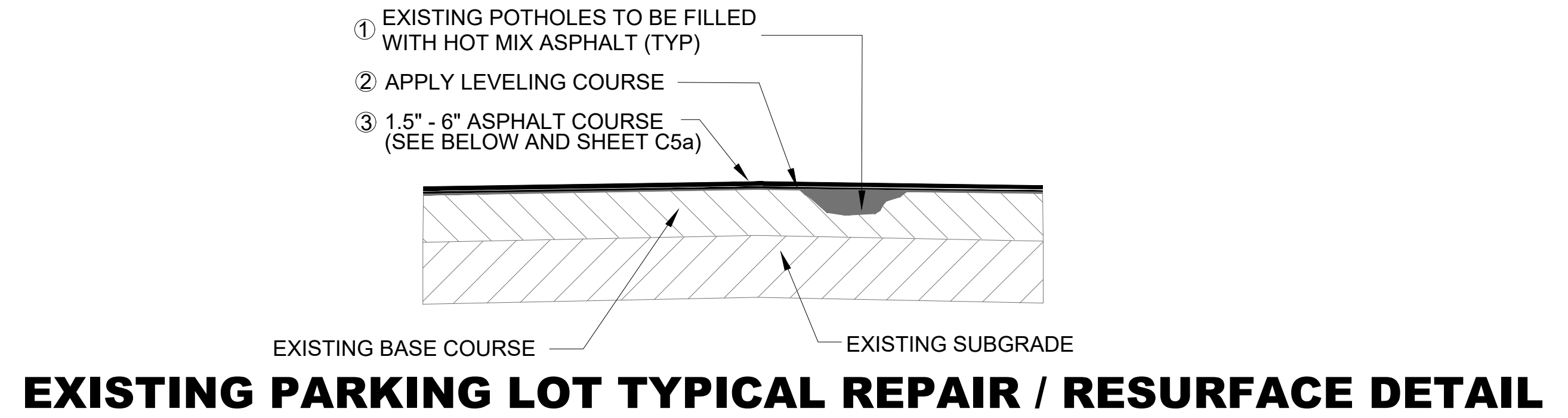
HANDICAPPED PARKING DETAILS

NTS



HEAVY DUTY CONCRETE DETAIL
NTS

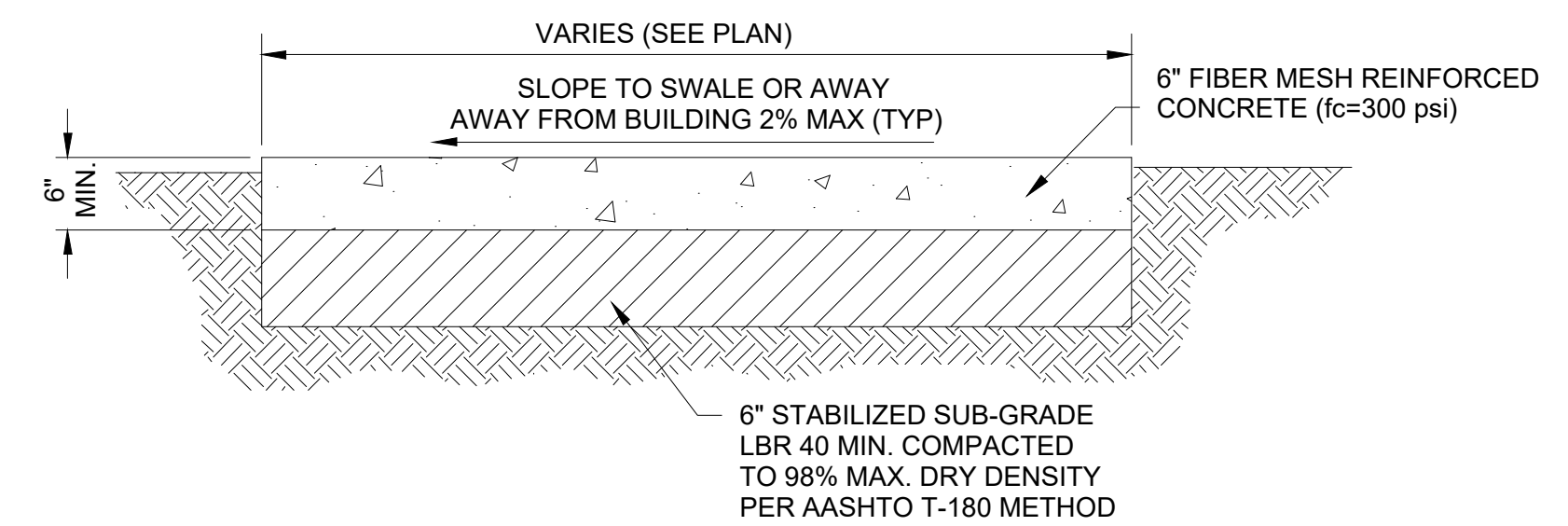
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EXISTING PARKING LOT TYPICAL REPAIR / RESURFACE DETAIL

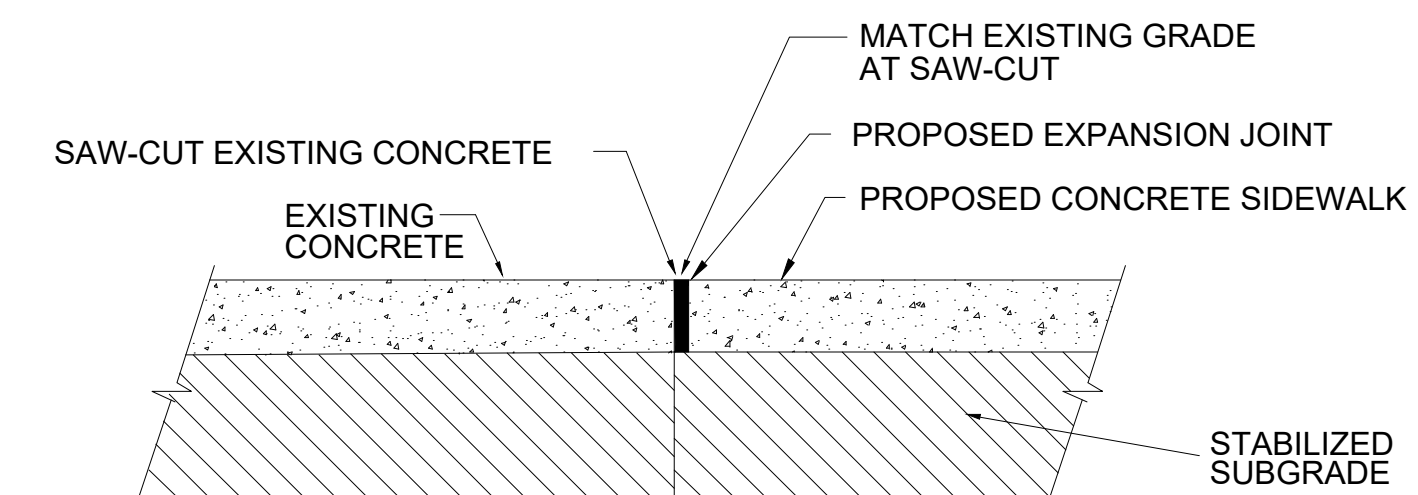
NTS

- NOTES:
- FILL ANY EXISTING POTHOLES IN PARKING LOT AREA WITH HOT MIX ASPHALT
 - APPLY LEVELING COURSE OVER EXISTING PARKING AREA AS DEFINED
 - APPLY 1.5" - 6" ASPHALT COURSE (SP-12.5) AS NEEDED TO WITHIN ±1.5" OF FINAL GRADES SHOWN
FINAL LIFT = SP-9.5 (MAX LIFT 1.5")



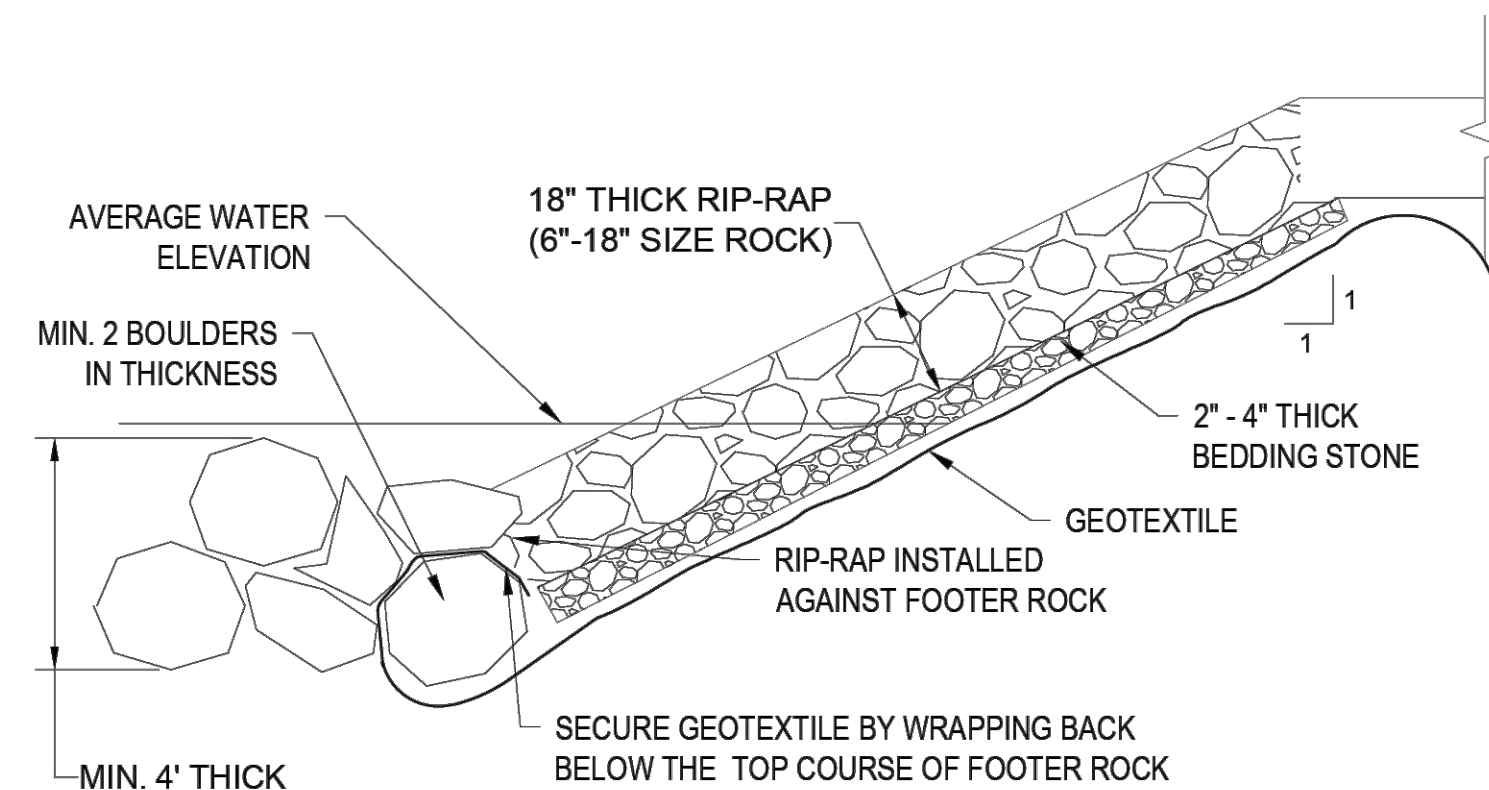
ON-SITE CONCRETE SIDEWALK DETAIL

NTS



CONCRETE SAW-CUT AND BUTT JOINT

NTS



- NOTES:
- THE RIPRAP RUBBLE SHALL BE BROKEN STONE CONFORMING TO SECTION 530-2.2.2 AND INSTALLED IN ACCORDANCE WITH SECTION 530-3.2 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION). ROCK RUBBLE LAYER SHALL BE A MINIMUM PERPENDICULAR THICKNESS OF 18 INCHES (AS IDENTIFIED WITHIN THE PLANS) AND PLACED IN SUCH MANNER AS TO PRODUCE A REASONABLY WELL GRADED MASS OF STONE WITH MINIMUM VOIDS. THE BROKEN STONE SHALL HAVE A MINIMUM WEIGHT OF 140 LBS/FT³.
 - BEDDING STONE SHALL CONFORM TO SECTION 901-1 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION) FOR NUMBER 4 COARSE AGGREGATE. THE BEDDING LAYER SHALL BE A MINIMUM OF 6-INCHES THICK PLACED ON TOP OF FILTER FABRIC IN ACCORDANCE WITH SECTION 530-3.3 OF THE FDOT SPECIFICATIONS.
 - THE BOULDERS TO BE LAID WHERE INDICATED AND AT THE GRADES AS SHOWN ON THE PLANS.
 - SHOULD THE CONTRACTOR ELECT TO USE BROKEN CONCRETE, MATERIALS USED SHALL CONFORM TO SECTION 530-2.2.3 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION).

FOOTER ROCK NOTES:

- GEOTEXTILE FILTER FABRIC NOTES:
- APPLICATION: THE APPLICATIONS OF GEOTEXTILE FABRICS FOR THIS PROJECT SHALL BE FOR DRAINAGE UNDER THE BOULDERS, ALL RIPRAP, RIPRAP AND WRAPPING AROUND ANY SPECIFIED PIPE JOINTS.
 - PHYSICAL REQUIREMENTS: UNLESS RESTRICTED IN THE PLANS OR SPECIFICATIONS, THE GEOTEXTILE FABRIC SHALL BE A WOVEN OR NON WOVEN FABRIC CONSISTING OF LONG-CHAIN POLYMERIC FILAMENTS OR YARNS SUCH AS POLYPROPYLENE, POLYETHYLENE, POLYESTER, POLYAMIDES OR POLYVINYLIDENE CHLORIDE. FILAMENTS SHALL BE WOVEN OR NON WOVEN INTO A STABLE NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN THEIR RELATIVE POSITION TO EACH OTHER. THE BASE PLASTIC SHALL CONTAIN STABILIZERS AND/OR INHIBITORS TO MAKE THE FILAMENTS RESISTANT TO DEGRADATION DUE TO ULTRA-VIOLET LIGHT EXPOSURE FOR SUBSURFACE AND SUBAQUEOUS CLASSIFICATION. HEAT EXPOSURE AND POTENTIAL CHEMICALLY DAMAGING ENVIRONMENT. THE FABRIC SHALL BE FREE OF ANY THREADS WHICH MAY SIGNIFICANTLY ALTER ITS PHYSICAL PROPERTIES. THE EDGES OF THE FABRIC SHALL BE SEWED OR OTHERWISE FINISHED TO PREVENT THE OUTER FABRIC FROM ROLLING AWAY FROM THE FABRIC.
 - OVERLAPS AND SEAMS: OVERLAPS SHALL BE AS SPECIFIED IN THE PLANS TO REDUCE OVERLAPS. THE GEOTEXTILE FABRIC MAY BE SEWN TOGETHER. SEAMS OF THE FABRIC SHALL BE SEWN WITH THREAD MEETING THE CHEMICAL REQUIREMENTS AND MINIMUM SEAM STRENGTH REQUIREMENTS GIVEN FOR THE FABRIC.
- A. BOULDERS USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO THE FOLLOWING:
- | Boulder Classification | Nominal Size | Range in Diameter of Individual Boulder | Maximum Ratio of Largest to Smallest Rock Dimension of Individual Boulder |
|------------------------|--------------|---|---|
| B24 | 24 | 23-26 | 1.50 |
- THE SPECIFIC GRAVITY OF THE BOULDERS SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
 - BOULDER SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T-99.
 - THE BULK DENSITY FOR THE BOULDER SHALL BE 1.3 TONCY OR GREATER.
 - THE BOULDERS SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN FORTY PERCENT (40%) AFTER FIVE HUNDRED (500) REVOLUTIONS WHEN TESTED IN ACCORDANCE WITH AASHTO T-10.

TEMPORARY CULVERT RIP-RAP EMBANKMENT DETAIL

NTS

19-0077	AS	JDB	JAN. 10, 2020	AS	REVISIONS FER 2023 BID	08/18/2023	DATE
DESIGNED	AS	JDB	JAN. 10, 2020	AS	REVISIONS FER 2023 BID	08/18/2023	DATE
DRAWN	JDB	JAN. 10, 2020	AS	REVISIONS FER 2023 BID	08/18/2023	DATE	
CHECKED	AS	08-09-2023	DATE ISSUED				

MBV ENGINEERING, INC.
MOIRA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #5728
1800 S. 20TH STREET
MIRAGE, FL 34943
TEL: (888) 848-2330
FAX: (888) 848-2330
P.O. BOX 178317
MIAMI, FL 33187

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL

SITE, PAVING, GRADING AND DRAINAGE DETAILS - 1

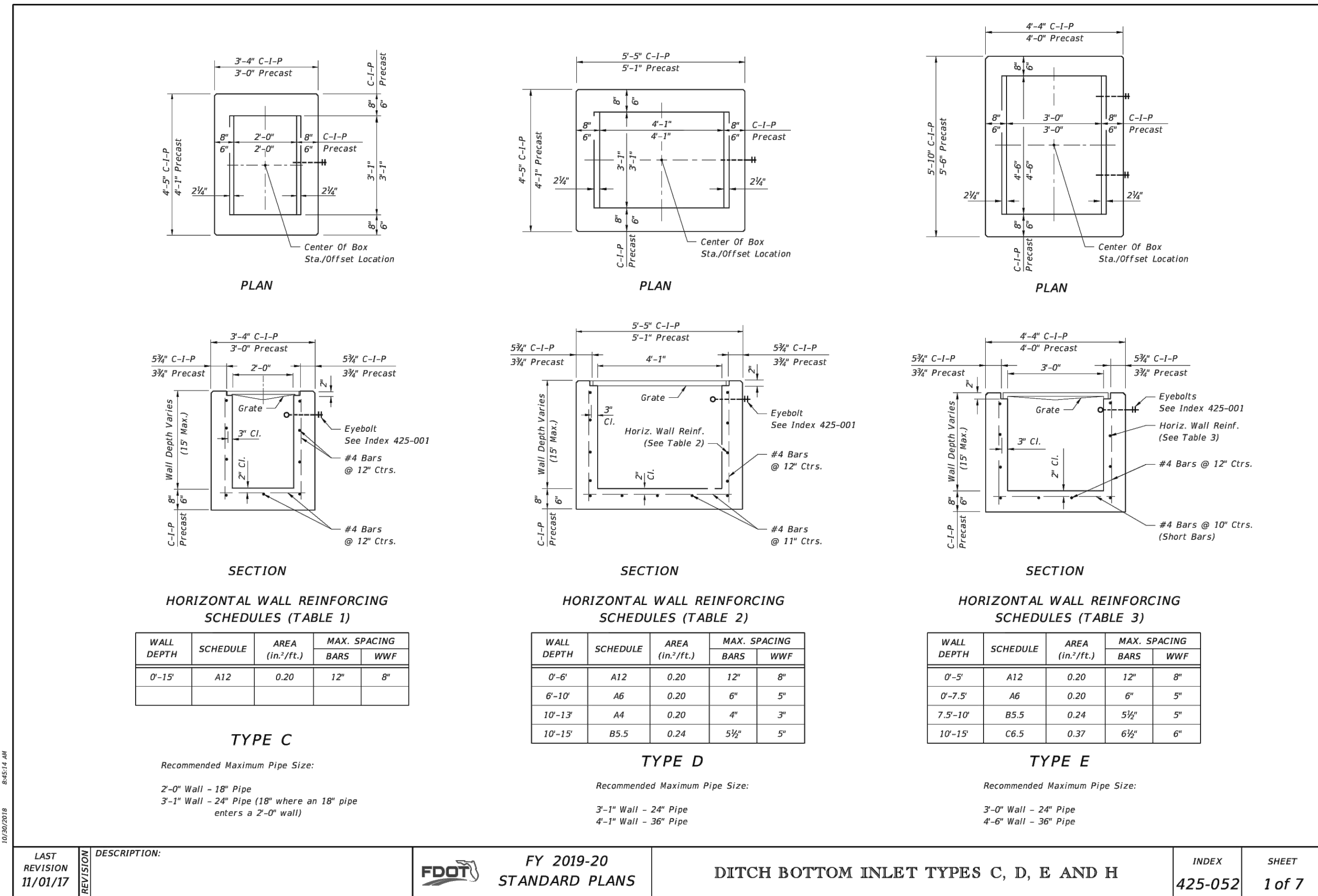
FLORIDA

AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

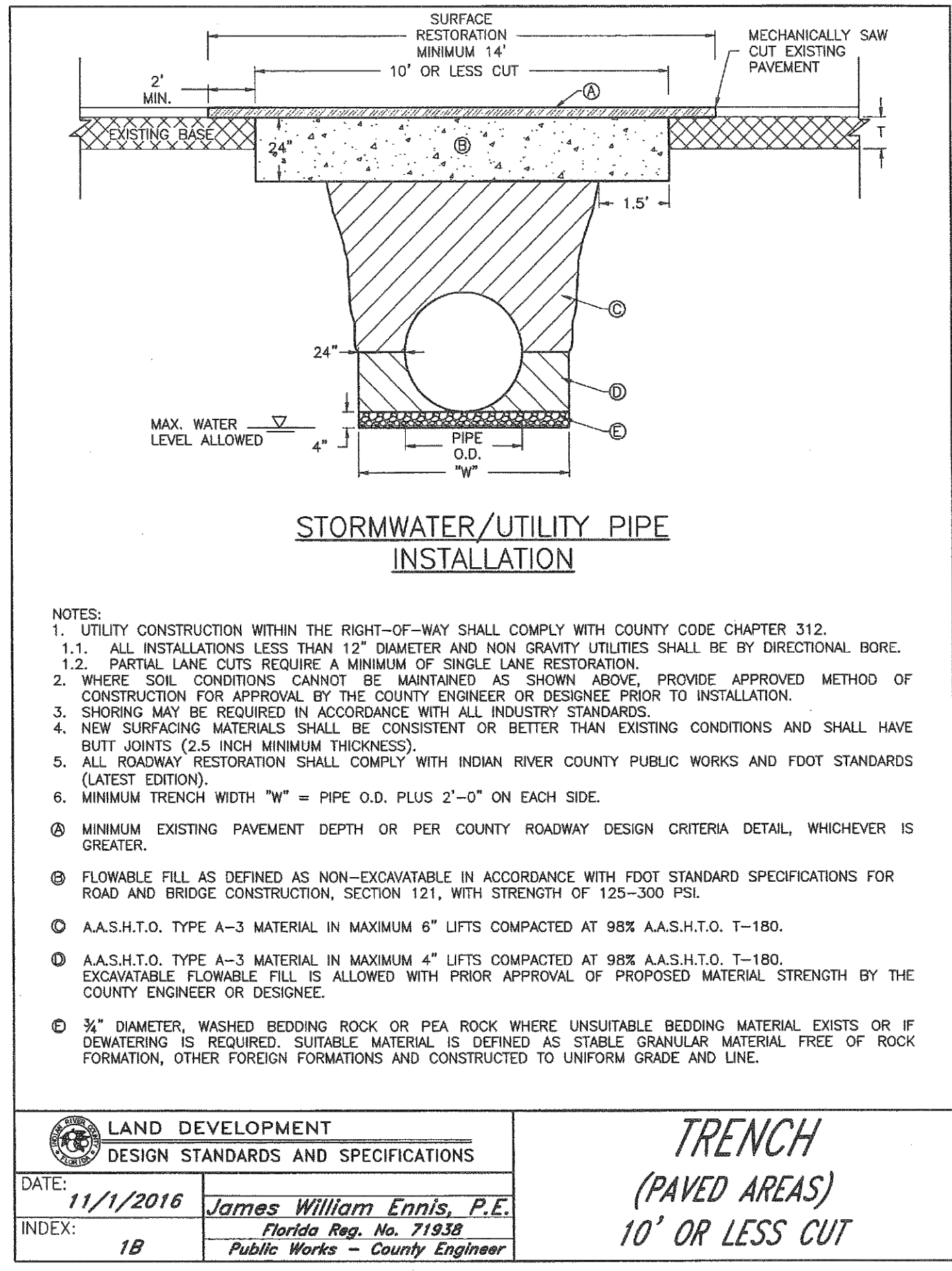
AARON G. STANTON
FL. P.E. #72460
6/19/23

C6a

19-0077 SHEET

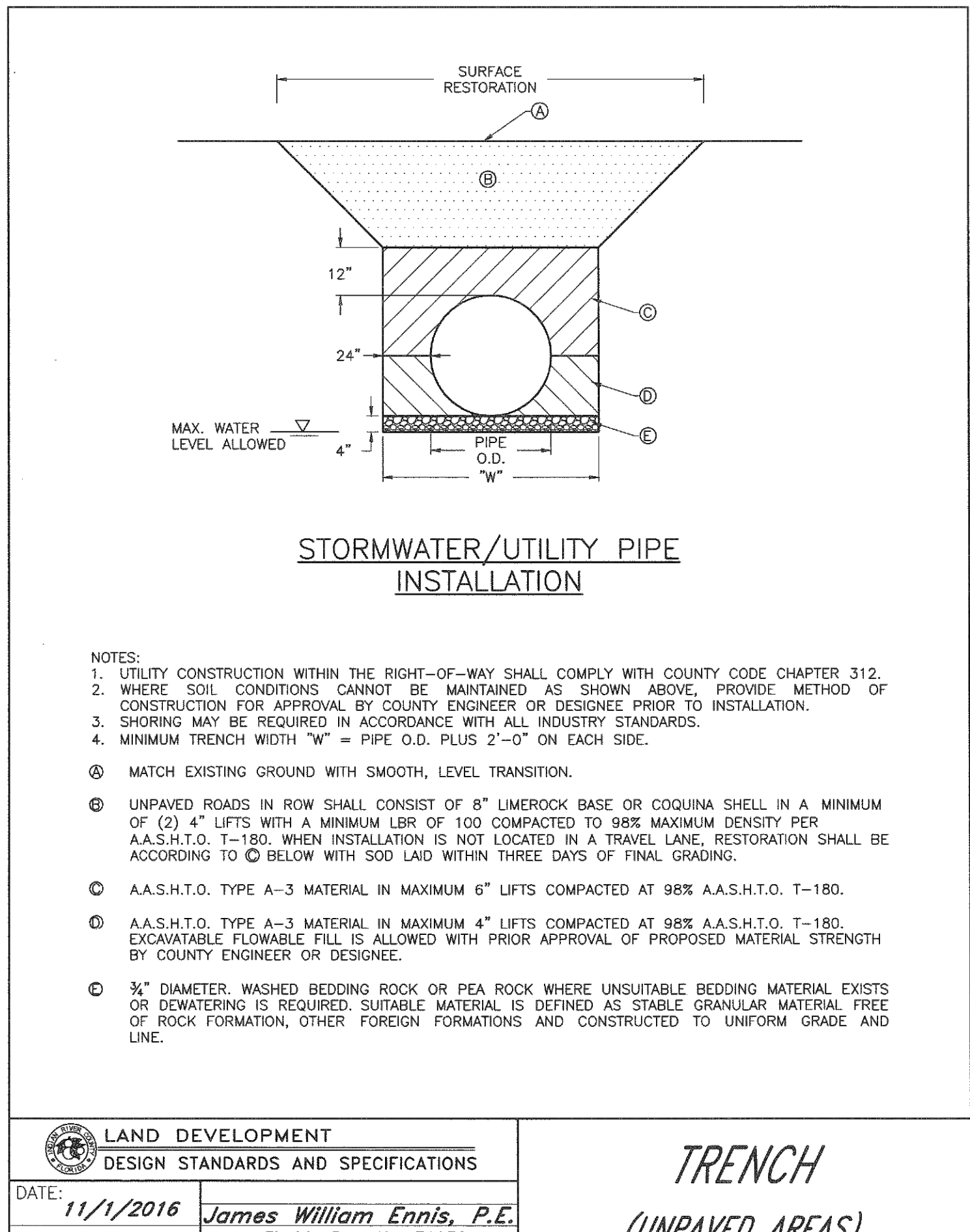


LAST REVISION 11/01/17 DESCRIPTION: FY 2019-20 STANDARD PLANS DITCH BOTTOM INLET TYPES C, D, E AND H INDEX 425-052 SHEET 1 of 7



LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS
 DATE: 11/1/2016 James William Ennis, P.E.
 INDEX: 1B Florida Reg. No. 71938
 Public Works - County Engineer

TRENCH (PAVED AREAS) 10' OR LESS CUT



LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS
 DATE: 11/1/2016 James William Ennis, P.E.
 INDEX: 2 Florida Reg. No. 71938
 Public Works - County Engineer

TRENCH (UNPAVED AREAS)

ROADWAY DESIGN CRITERIA

ROAD CLASSIFICATION	ASPHALT TYPE AND THICKNESS	BASE THICKNESS	SUBGRADE/SUBBASE THICKNESS
1.3.4.5 PRIVATE LOCAL SUBDIVISION	(1) 1.5" LAYER OF SP-9.5 (2) 1" LAYERS OF SP-9.5 1" OF SP-9.5 OVER 1.25" OF SP-12.5	6"	8"
2.5.7 PUBLIC LOCAL	(2) 1" LAYERS OF SP-9.5 1" OF SP-9.5 OVER 1.5" OF SP-12.5	8"	12"
2.5.6.7 PUBLIC COLLECTOR OR ARTERIAL RIGHT TURNLANE	1" OF SP-9.5 OVER 1.5" OF SP-9.5 1" OF SP-9.5 OVER 1.5" OF SP-12.5 (1) 2.5" LAYER OF SP-12.5 (2) 1.5" LAYERS OF SP-9.5	10"	12"
2.5.6.7 PUBLIC ARTERIAL	1" OF SP-9.5 OVER 2" OF SP-12.5 (2) 1.5" LAYER OF SP-12.5	10"	12"

NOTES:
 1. IRC 913.09(3)(j)(1)
 2. FDOT TOPIC #625-010-002, FDOT FLEXIBLE PAVEMENT DESIGN MANUAL, TABLE 5.11, PG 5-32 (LATEST EDITION).
 3. PRIVATELY OWNED AND MAINTAINED ROADWAYS SHALL HAVE A STABILIZED SUB-GRADE WITH A LIMEROCK BEARING RATIO OF 40 AND SHALL BE COMPACTED TO NINETY-EIGHT (98) PERCENT MAXIMUM DRY DENSITY AS ESTABLISHED BY A.A.S.H.T.O. PROCEDURE T-180.
 4. PRIVATELY OWNED AND MAINTAINED ROADWAYS SHALL HAVE A BASE CONSISTING OF CEMENTED COQUINA SHELL OR LIMEROCK WITH A LIMEROCK BEARING RATIO OF 100 MEETING FDOT SPECIFICATIONS COMPACTED TO NINETY-EIGHT (98) PERCENT DRY DENSITY AS ESTABLISHED BY A.A.S.H.T.O. PROCEDURE T-180.
 5. ALL ASPHALT MIXES TO MEET FDOT STANDARD SPECIFICATIONS SECTION 334 - (LATEST EDITION).
 6. ASPHALT TRAFFIC LEVEL C FOR ALL CONDITIONS EXCEPT THAT ARTERIAL MAY REQUIRE TRAFFIC LEVEL D. SP-9.5 SHALL NOT BE INSTALLED IN TRAFFIC LEVEL C CONDITIONS.
 7. PUBLICLY OWNED AND MAINTAINED ROADWAYS SHALL MEET FDOT SPECIFICATIONS FOR MATERIAL AND COMPACTION.

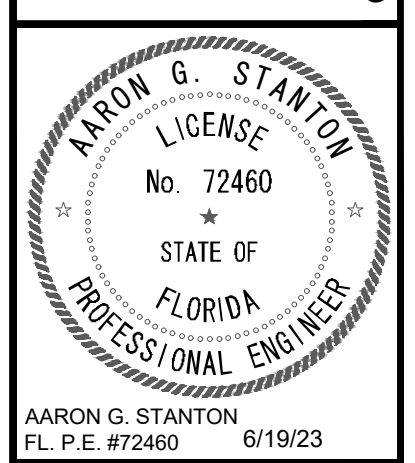
LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS
 DATE: 11/1/2016 James William Ennis, P.E.
 INDEX: 16 Florida Reg. No. 71938
 Public Works - County Engineer

JOB NO.	DESIGNED	DRAWN	DATE	CHECKED	DATE ISSUED	REVISIONS	DATE
19-0071	AS	JDB	JAN. 10, 2020	AS	06-09-2023	1	08/16/2023

MBV ENGINEERING, INC.
 MOIA, BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #5728
 1800 S. 30TH STREET
 FT. PIERCE, FL 34947
 TEL: (888) 222-2222
 FAX: (888) 222-2222

SITE, PAVING, GRADING AND DRAINAGE DETAILS - 2

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL
 CITY OF VERO BEACH
 FLORIDA



AARON G. STANTON
 FL. P.E. #72460 6/19/23

C6b
 SHEET

19-0077

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2	Definitions Temporary Traffic Control Devices Pedestrian and Bicyclist Overhead Work Sight Distance Above Ground Hazard Clear Zone Widths For Work Zones Superelevation Length Of Lane Closures Overweight/Oversize Vehicles Lane Widths High-Visibility Safety Apparel Regulatory Speeds In Work Zones Flagger Control Survey Work Zones Signs
3	Work Zone Sign Supports Project Information Sign Commonly Used Warning and Regulatory Signs In Work Zones Manholes/Crosswalks/Joints Truck Mounted Attenuators Removing Pavement Markings Signals Channelizing Devices Channelizing Devices Consistency Portable Changeable (Variable) Message Signs (PCMS) Advanced Warning Arrow Boards
4	Drop-Offs In Work Zones Business Entrance Temporary Asphalt Separator Channelizing Devices Notes Temporary Barrier Notes
5	Pavement Markings

GENERAL NOTES:

- All projects and works on highways, roads and streets shall have a traffic control plan. All work shall be executed under the established plan and Department-approved procedures. This Index contains information specific to the Federal and State guidelines and standards for the preparation of traffic control plans and for the execution of traffic control in work zones, for construction and maintenance operations and utility work on highways, roads and streets on the State Highway System. Certain requirements in this Index are based on the high volume nature of State Highways. For highways, roads and streets off the State Highway System, the local agency (City/County) having jurisdiction may adopt requirements based on the minimum requirements provided in the MUTCD.
- Indexes 102-601 through 102-670 are Department-specific typical applications of commonly encountered situations. Adjust device location or number thereof as recommended by the Workplace Traffic Supervisor and approved by the Engineer. Devices include, but are not limited to, Flags, portable temporary signals, signs, pavement markings, and channelizing devices. Comply with MUTCO or applicable Department criteria for any changes and document the reason for the change.
- Except for emergencies, any road closure on State Highway System shall comply with Section 325.15, F.S.

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GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

CLEAR ZONE WIDTHS FOR WORK ZONES

The term "clear zone" describes the unobstructed relatively flat area, impacted by construction, extending outward from the edge of the traffic lane. The table below gives clear zone widths in work zones for medians and roadside conditions other than for roadside canals; where roadside canals are present, clear zone widths are to conform with the distances to canals as described in the FDOT Design Manual 215.2.

CLEAR ZONE WIDTHS FOR WORK ZONES		
WORK ZONE SPEED (MPH)	TRAVEL LANES & MULTILANE RAMPS (feet)	AUXILIARY LANES & SINGLE LANE RAMPS (feet)
60-70	18	10
55	24	14
45-50	18	10
30-40	14	10
ALL SPEEDS CURB & GUTTER	4' BEHIND FACE OF CURB	4' BEHIND FACE OF CURB

OVERWEIGHT/OVERSIZE VEHICLES

Restrictions to Lane Widths, Heights or Load Capacity can greatly impact the movement of over dimensioned loads. The Contractor shall notify the Engineer who in turn shall notify the State Permits Office, phone no. (850) 410-5777, at least seven calendar days in advance of implementing a maintenance of traffic plan which will impact the flow of overweight/oversize vehicles. Information provided shall include location, type of restriction (height, width or weight) and restriction time frames. When the roadway is restored to normal service the State Permits Office shall be notified immediately.

LANE WIDTHS

Lane widths of through roadways should be maintained through work zone travel ways wherever practical. The minimum widths for work zone travel lanes shall be as follows: 11' for Interstate with at least one 12' lane provided in each direction, unless formally excepted by the Federal Highway Administration; 11' for Freeways; and 10' for all other facilities.

HIGH-VISIBILITY SAFETY APPAREL

All high-visibility safety apparel shall meet the requirements of the International Safety Equipment Association (ISEA) and the American National Standards Institute (ANSI) for "High-Visibility Safety Apparel", and labeled as ANSI/ISEA 107-2004 or newer. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as defined by the standard. The retroreflective material shall be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 1,000 feet. Class 3 apparel may be substituted for Class 2 apparel. Replace apparel that is not visible at 1,000 feet.

WORKERS: All workers within the right-of-way shall wear ANSI/ISEA Class 2 apparel. Workers operating machinery or equipment in which loose clothing could become entangled during operation shall wear fitted high-visibility safety apparel. Workers inside the bucket of a bucket truck are not required to wear high-visibility safety apparel.

UTILITIES: When other industry apparel safety standards require utility workers to wear apparel that is inconsistent with FDOT requirements such as NFPA, OSHA, ANSI, etc., the other standards for apparel may prevail.

FLAGGERS: For daytime activities, flaggers shall wear ANSI/ISEA Class 2 apparel. For nighttime activities, flaggers shall wear ANSI/ISEA Class 3 apparel.

REGULATORY SPEEDS IN WORK ZONES

Traffic Control Plans (TCPs) for all projects must include specific regulatory speeds for each phase of work. This can either be the posted speed or a reduced speed. The speed shall be noted in the TCPs; this includes indicating the existing speed if no reduction is to be made. Regulatory speeds are to be uniformly established through each phase.

In general, the regulatory speed should be established to route vehicles safely through the work zone as close as to normal highway speed as possible. The regulatory speed should not be reduced more than 10 mph below the posted speed and never below the minimum statutory speed for the class of facility. When a speed reduction greater than 10 mph is imposed, the reduction is to be done in 10 mph per 500' increments.

Temporary regulatory speed signs shall be removed as soon as the conditions requiring the reduced speed no longer exist. Once the work zone regulatory speeds are removed, the regulatory speed existing prior to construction will automatically go back into effect unless new speed limit signing is provided for in the plans. On projects with interspaced work activities, speed reductions should be located in proximity to those activities which merit a reduced speed, and not "blanketed" for the entire project. At the departure of such activities, the normal highway speed should be posted to give the motorist notice that normal speed can be resumed.

If the existing regulatory speed is to be used, consideration should be given to supplementing the existing signs when the construction work zone is between existing regulatory speed signs. For projects where the reduced speed conditions exist for greater than 1 mile in rural areas (non-interstate) and on rural or urban interstate, additional regulatory speed signs are to be placed at no more than 1 mile intervals. Engineering judgment should be used in placement of the additional signs. Locating these signs beyond ramp entrances and beyond major interchanges are examples of proper placement. For urban situations (non-interstate), additional speed signs are to be placed at a maximum of 1000' apart.

When field conditions warrant speed reductions different from those shown in the TCP, the contractor may submit to the project engineer for approval by the Department, a signed and sealed study to justify the need for further reducing the posted speed, or, the engineer may request the District Traffic Operations Engineer (DTOE) to investigate the need. It will not be necessary for the DTOE to issue regulations for regulatory speeds in work zones due to the revised provisions of F.S. 316.07451(2) (b). Advisory Speed plates will be used at the option of the field engineer for temporary use while processing a request to change the regulatory speed specified in the plans when deemed necessary. Advisory speed plates cannot be used alone but must be placed below the construction warning sign with the advisory speed it is required.

For additional information, refer to the FDOT Design Manual 240.

MINIMUM RADII FOR NORMAL CROWN		
WORK ZONE POSTED SPEED	MINIMUM RADIUS	
MPH	feet	
65	4090	
70	2400	
55	1840	
50	1390	
45	1080	
40	820	
35	610	
30	430	

Superelevate When Smaller Radii is Used

LENGTH OF LANE CLOSURES

For interstates and state highways with a posted speed of 55MPH or greater, lane closures must not exceed 3 miles (includes taper, buffer, and work zone) in any given direction and must not close two consecutive interchanges.

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GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

DEFINITIONS

Regulatory Speed (In Work Zones)

The maximum permitted travel speed posted for the work zone is indicated by the regulatory speed limit signs. The work zone speed must be shown or noted in the plans. This speed should be used as the minimum design speed to determine cone lengths, departure rates, flare rates, lengths of need, clear zone widths, taper lengths, crash cushion requirements, marker spacings, superelevation and other similar features.

Advisory Speed

The maximum recommended travel speed through a curve or a hazardous area.

Travel Way

The portion of the roadway for the movement of vehicles. For traffic control through work zones, travel way may include the temporary use of shoulders and any other permanent or temporary surface intended for use as a lane for the movement of vehicular traffic.

- a. **Travel Lane:** The designated widths of roadway pavement marked to carry through traffic and to separate it from opposing traffic or traffic occupying other traffic lanes.
- b. **Auxiliary Lane:** The designated widths of roadway pavement marked to separate speed change, turning, passing and climbing maneuvers from through traffic.

Detour, Lane Shift, and Diversion

A detour is the redirection of traffic onto another roadway to bypass the temporary traffic control zone. A lane shift is the redirection of traffic onto a different section of the permanent pavement. A diversion is the redirection of traffic onto a temporary roadway, usually adjacent to the permanent roadway and within the limits of the right of way.

Aboveground Hazard

An aboveground hazard is any object, material or equipment other than traffic control devices that encroaches upon the travel way or that is located within the clear zone which does not meet the Department's safety criteria, i.e., anything that is greater than 4" in height and is firm and unyielding or doesn't meet breakaway requirements.

TEMPORARY TRAFFIC CONTROL DEVICES

All temporary traffic control devices shall be ON the Department's Approved Products List (APL). Ensure the appropriate APL number is permanently marked on the device in a readily visible location.

All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.

Arrow Boards, Portable Changeable Message Signs, Radar Speed Display Trailer, Portable Regulatory Signs, and any other trailer mounted device shall be delineated with a channelizing device placed at each corner when in use and shall be moved outside the travel way and clear zone or be shielded by a barrier or crash cushion when not in use.

PEDESTRIAN AND BICYCLIST

When an existing pedestrian way or bicycle way is located within a traffic control work zone, accommodation must be maintained and provision for the disabled must be provided.

Only approved pedestrian longitudinal channelizing devices may be used to delineate a temporary traffic control zone pedestrian walkway.

Advanced notification of sidewalk closures and marked detours shall be provided by appropriate signs.

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GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

OVERHEAD WORK

Work is only allowed over a traffic lane when one of the following options is used:

OPTION 1 (OVERHEAD WORK USING A MODIFIED LANE CLOSURE)

Overhead work using a modified lane closure is allowed if all of the following conditions are met:

- a. Work operation is located in a signalized intersection and limited to signals, signs, lighting and utilities.
- b. Work operations are 60 minutes or less.
- c. Speed limit is 45 mph or less.
- d. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
- e. Aerial lift equipment is placed directly below the work area to close the lane.
- f. Traffic control devices are placed in advance of the vehicle/equipment closing the lane using a minimum 100' foot taper.
- g. Volume or complexity of the roadway may dictate additional devices, signs, flagmen and/or a traffic control officer.

OPTION 2 (OVERHEAD WORK ABOVE AN OPEN TRAFFIC LANE)

Overhead work above an open traffic lane is allowed if all of the following conditions are met:

- a. Work operation is located on a utility pole, light pole, signal pole, or their appurtenances.
- b. Work operations are 60 minutes or less.
- c. Speed limit is 45 mph or less.
- d. No encroachment by any part of the work activities and equipment within an area bounded by 2 feet outside the edge of travel way and 18 feet high.
- e. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
- f. Volume or complexity of the roadway may dictate additional devices, signs, flagmen and/or a traffic control officer.
- g. Adequate precautions are taken to prevent parts, tools, equipment and other objects from falling into open lanes of traffic.
- h. Other Governmental Agencies, Rail facilities, or Codes may require a greater clearance. The greater clearance required prevails as the rule.

OPTION 3 (OVERHEAD WORK ADJACENT TO AN OPEN TRAFFIC LANE)

Overhead work adjacent to an open traffic lane is allowed if all of the following conditions are met:

- a. Work operation is located on a utility pole, light pole, signal pole, or their appurtenances.
- b. Work operations are 1 day or less.
- c. Speed limit is 45 mph or less.
- d. No encroachment by any part of the work activities and equipment within 2 feet from the edge of travel way up to 18' height.
- e. Above 18' in height, no encroachment by any part of the work activities and equipment over the open traffic lane (except as allowed in Option 2 for work operations of 60 minutes or less).
- f. Aerial lift equipment in the work area has high-intensity, rotating, flashing, oscillating, or strobe lights operating.
- g. Adequate precautions are taken to prevent parts, tools, equipment and other objects from falling into open lanes of traffic.
- h. Other Governmental Agencies, Rail facilities, or Codes may require a greater clearance. The greater clearance required prevails as the rule.

PEDESTRIAN AND BICYCLIST

When an existing pedestrian way or bicycle way is located within a traffic control work zone, accommodation must be maintained and provision for the disabled must be provided.

Only approved pedestrian longitudinal channelizing devices may be used to delineate a temporary traffic control zone pedestrian walkway.

Advanced notification of sidewalk closures and marked detours shall be provided by appropriate signs.

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GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

OPTION 4 (OVERHEAD WORK MAINTAINING TRAFFIC WITH NO ENCROACHMENT BELOW THE OVERHEAD WORK AREA)

Traffic shall be detoured, shifted, diverted or paced as to not encroach in the area directly below the overhead work operations in accordance with the appropriate index drawing or detailed in the plans. This option applies to, but not limited to, the following construction activities:

- a. Beam, girder, segment, and bent/pier cap placement.
- b. Form and falsework placement and removal.
- c. Concrete placement.
- d. Railing construction located at edge of deck.
- e. Structure demolition.

OPTION 5 (CONDUCTOR/CABLE PULLING ABOVE AN OPEN TRAFFIC LANE)

Overhead cable and/or de-energized conductor installations initial pull to proper tension shall be done in accordance with the appropriate Index or temporary traffic control plan.

Continuous pulling operations of secured cable and/or conductors are allowed over open lanes of traffic with no encroachment by any part of the work activities, materials or equipment within the minimal vertical clearance above the travel way. The utility shall take precautions to ensure that pull ropes and conductors/cables at no time fall below the minimum vertical clearance.

On Limited Access facilities, a site specific temporary traffic control plan is required. The temporary traffic control plan shall include:

- a. The temporary traffic control set up for the initial pulling of the pull rope across the roadway.
- b. During pulling operations, advance warning consisting of no less than a Changeable Message Sign upstream of the work area with alternating messages, "Overhead Work Ahead" and "Be Prepared to Stop" followed by a traffic control officer and police vehicle with blue lights flashing during the pulling operation.

RAILROADS

Railroad crossings affected by a construction project should be evaluated for traffic controls to reduce queuing on the tracks. The evaluation should include as a minimum: traffic volumes, distance from the tracks to the intersections, lane closure or taper locations, signal timing, etc.

SIGHT DISTANCE

Tapers: Transition tapers should be obvious to drivers. If restricted sight distance is a problem (e.g., a sharp vertical or horizontal curve), the taper should begin well in advance of the view obstruction. The beginning of tapers should not be hidden behind curves.

Intersections: Traffic control devices at intersections must provide sight distances for the road user to perceive potential conflicts and to traverse the intersection safely. Construction equipment and materials shall not restrict intersection sight distance.

ABOVEGROUND HAZARD

Aboveground hazards (see definitions) are to be considered work areas during working hours and treated with appropriate work zone traffic control procedures. During nonworking hours, all objects, materials and equipment that constitute an aboveground hazard must be stored/placed outside the travel way and clear zone or be shielded by a barrier or crash cushion.

For aboveground hazards within a work zone the clear zone required should be based on the regulatory speed posted during construction.

SIGN COVERING AND INTERMITTENT WORK STOPPAGE SIGNING

Existing or temporary traffic control signs that are no longer applicable or are inconsistent with intended travel paths shall be removed or fully covered.

Sign blanks or other available coverings must completely cover the existing sign. Rigid sign coverings shall be the same size as the sign it is covering, and bolted in a manner to prevent movement.

Sign covers are incidental to work operations and are not paid for separately.

SIGNING FOR DETOURS, LANE SHIFTS AND DIVERSIONS

Detours should be signed clearly over their entire length so that motorists can easily determine how to return to the original roadway. The reverse curve (R-C) warning sign should be used for the advanced warning for a lane shift. A diversion should be signed as a lane shift.

EXTENDED DISTANCE ADVANCE WARNING SIGN

Advance Warning Signs shall be used at extended distance of one-half mile or more when limited sight distance or the nature of the obstruction may require a motorist to bring their vehicle to a stop. Extended distance Advanced Warning Signs may be required on any type roadway, but particularly be considered on multilane divided highways where vehicle speed is generally in the higher range (45 MPH or more).

UTILITY WORK AHEAD SIGN

THE UTILITY WORK AHEAD (W21-7) sign may be used as an alternate to the ROAD WORK AHEAD or the ROAD WORK XX FT (W20-1) sign for utility operations on or adjacent to a highway.

LENGTH OF ROAD WORK SIGN

The length of road work sign (G20-1) bearing the legend ROAD WORK NEXT _____ MILES is required for all projects of more than 2 miles in length. The number of miles entered should be rounded up to the nearest mile. The sign shall be located at begin construction points.

SPEEDING FINES DOUBLED WHEN WORKERS PRESENT SIGN

The SPEEDING FINES DOUBLED WHEN WORKERS PRESENT sign should be installed on all projects, but may be omitted if the work operation is less than 1 day. The placement should be 300 feet beyond the ROAD WORK AHEAD sign or midway to the next sign whichever is less.

GROOVED PAVEMENT AHEAD SIGN

THE GROOVED PAVEMENT AHEAD sign is required 500 feet in advance of a milled or grooved surface open to traffic. The WB-15P placard shall be used in conjunction with the GROOVED PAVEMENT AHEAD sign.

END ROAD WORK SIGN

The END ROAD WORK sign (G20-2) should be installed on all projects, but may be omitted where the work operation is less than 1 day. The sign should be placed approximately 300 feet beyond the end of a construction or maintenance project unless other distance is called for in the plans. When other construction or maintenance operations occur within 1 mile this sign should be omitted and signing coordinated in accordance with Index 102-600, ADJOINING AND/OR OVERLAPPING WORK ZONE SIGNING.

PROJECT INFORMATION SIGN

The Project information sign shall be installed when called for in the plans.

- (A) For scheduled projects the engineer in responsible charge of project design will resolve anticipated work zone conflicts during the development of the project traffic control plan. This may entail revision of plans on preceding projects and coordination of plans on concurrent projects.
- (B) Unanticipated conflicts arising between adjoining in progress highway construction projects will be resolved by the Resident Engineer for projects under his residency, and, by the District Construction Engineer for in progress projects under adjoining residencies.
- (C) The District Maintenance Engineer will resolve anticipated and occurring conflicts within scheduled maintenance operations.
- (D) The Unit Maintenance Engineer will resolve conflicts that occur within routine maintenance works; between routine maintenance work, unscheduled work and/or permitted work; and, between unit controlled maintenance works and highway construction projects.

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GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES

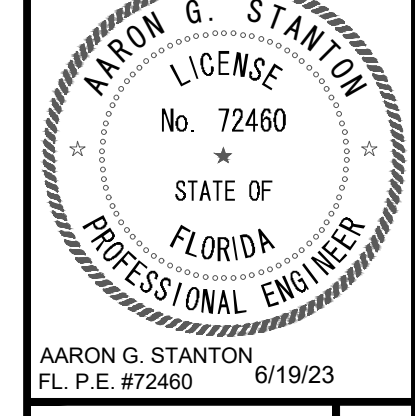
NO.	REVISIONS	DATE
1	REVISIONS PER 2023 BID	08/16/2023

JOB NO.	AS	JDB	DATE	CHECKED	DATE ISSUED
19-0071	DESIGNED	JAN. 10, 2020	AS		06-09-2023

MBV ENGINEERING, INC.
MOVA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1800 W. 20TH STREET
MIAMI, FL 33135
TEL: (772) 846-2333
FAX: (772) 338-1831
FDOT PROJECT # 19-0071-MB-005

MOT DETAILS -1

**JACKIE ROBINSON TRAINING COMPLEX
WALKING TRAIL**



AARON G. STANTON
FL. P.E. #72460 6/19/23

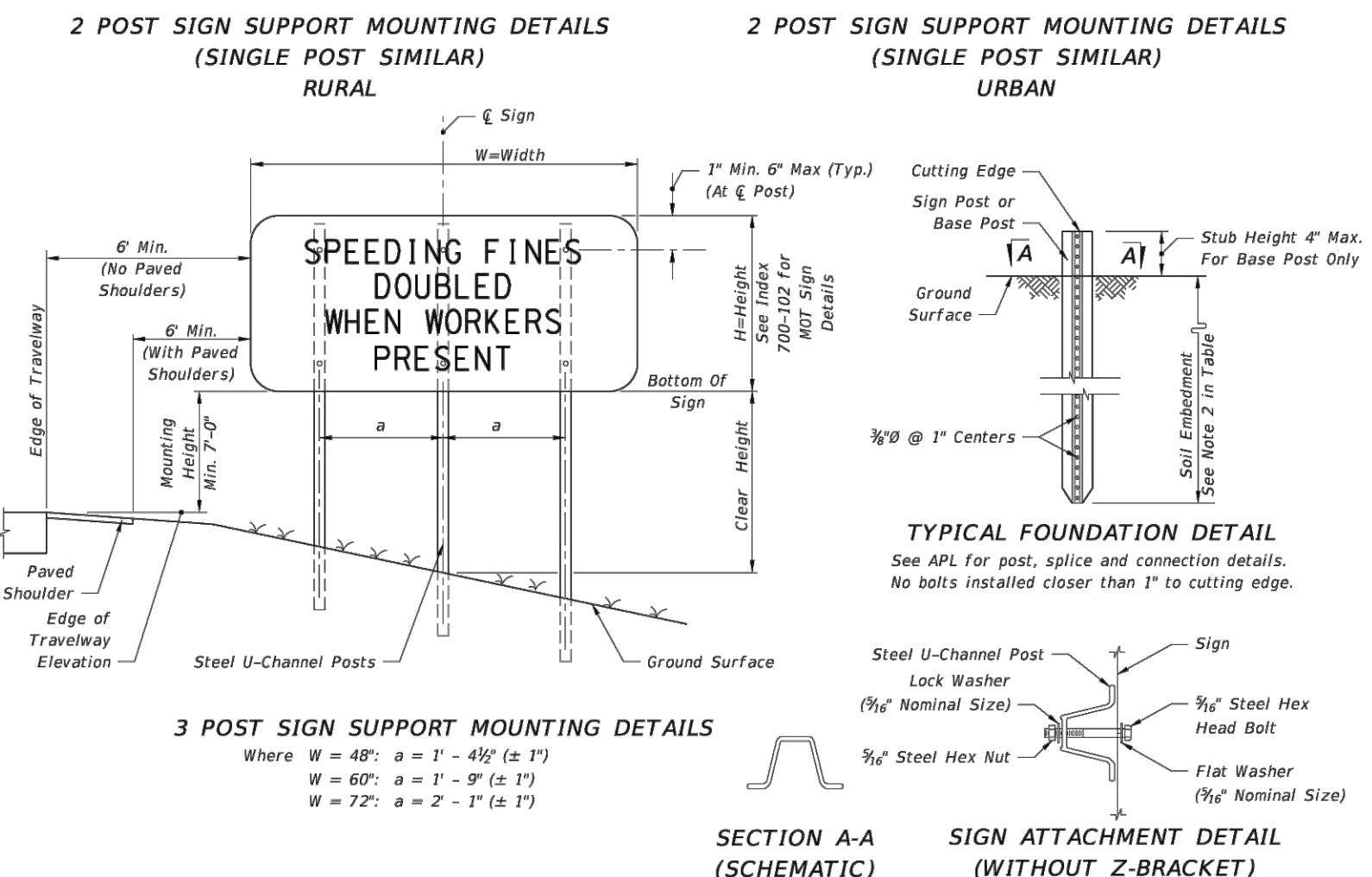
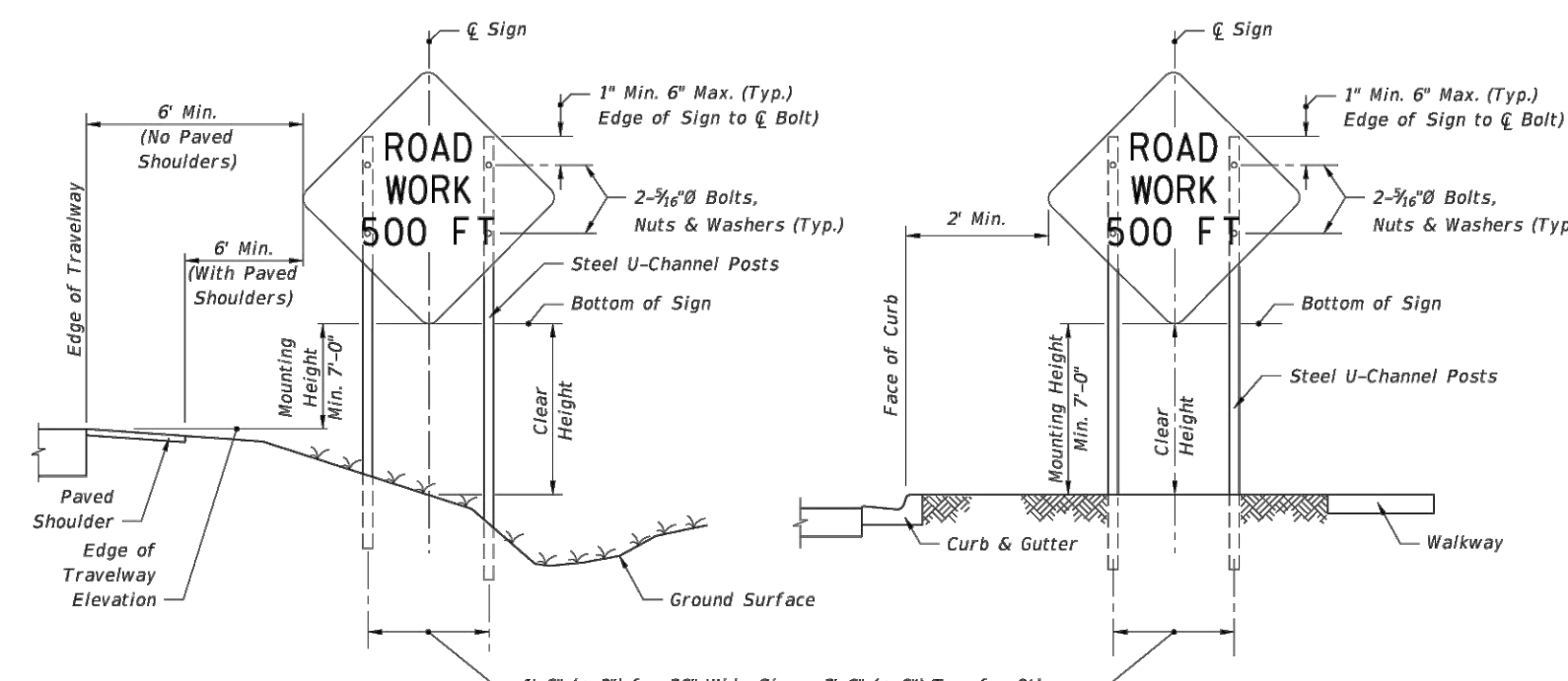
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TEMPORARY SIGN SUPPORT NOTES:

- All signs shall be post mounted when work operations exceed one day except for:
 - Road closure signs mounted in accordance with the vendor drawing for the Type III Barricade shown on the APL.
 - Pedestrian advanced warning or pedestrian regulatory signs mounted on sign supports in accordance with the vendor drawing shown on the APL.
 - Median barrier mounted signs per Index 700-013.
- Unless shielded by barrier or outside of the Clear Zone, signs mounted on temporary supports or barricades, and barricade/sign combination must be crashworthy in accordance with NCHRP 350 requirements and included on the Approved Products List (APL).
- Use only approved systems listed on the Department's Approved Products List (APL).
- Manufacturers seeking approval of U-Channel and steel square tube sign support assemblies for inclusion on the Approved Products List (APL) must submit an APL application, design calculations for square tube only, and detailed drawings showing the product meets all the requirements of this Index.
- Provide 3 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.43 in³ for 60 ksi steel, a minimum section modulus of 0.37 in³ for 70 ksi steel, or a minimum section modulus of 0.34 in³ for 80 ksi steel.
- Provide 4 lb/ft Steel U-Channel Posts with a minimum section modulus of 0.56 in³ for 60 ksi steel, or a minimum section modulus of 0.47 in³ for 70 ksi or 80 ksi steel.
- U-channel posts shall conform with ASTM A 499, Grade 60, or ASTM A 576, Grade 1080 (with a minimum yield strength of 60 ksi). Square tube posts shall conform with ASTM A 633, Grade 50, or ASTM A 1011, Grade 50.
- Sign attachment bolts, washers, nuts, and spacers shall conform with ASTM A307 or A 36.
- For diamond warning signs with supplement plaque (up to 5 ft² in area), use 4 lb/ft posts for up to 10 ft Clear Height (measure to the bottom of diamond warning sign).
- Install 4 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- The contractor may install 3 lb/ft Steel U-Channel Posts with approved breakaway splice in accordance with the manufacturer's detail shown on the APL.
- Install all post plumb.
- The contractor may set posts in preformed holes to the specified depth with suitable backfill tamped securely on all sides, or drive 3 lb/ft sign posts and any size base post in accordance with the manufacturer's detail shown on the APL.



POST AND FOUNDATION WORK ZONE SIGN SUPPORTS

SIGN SHAPE	SIGN SIZE (Inches)	NUMBER OF STEEL U-CHANNEL POSTS
Octagon	30x30	1
Triangle	36x36x36	1
	48x48x48	2
	60x60x60	2
	72x72	1
	24x30	2
	30x24	1
	36x18	1
	36x24	1
	48x18	1
	48x24	1
	48x36	2
	54x36	2
	48x60	3
	60x54	3
	72x48	3
	120x60	4
	30x30	1
	36x36	2
	48x48	2
	48x48	2
	360	2

- Notes For Table:
- Use 3 lb/ft posts for Clear Height up to 10' and 4 lb/ft posts for Clear Height up to 12'.
 - Minimum foundation depth is 4:1 for 3 lb/ft posts and 4.5:1 for 4 lb/ft posts.
 - For both 3 lb/ft and 4 lb/ft base or sign posts installed in rock, a minimum cumulative depth of 2' of rock layer is required.
 - The soil plate as shown on the APL vendor drawing is not required for base posts or sign posts installed in existing rock (as defined in Note 3), asphalt roadway, shoulder pavement or soil under sidewalk.

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COMMONLY USED WARNING AND REGULATORY SIGNS IN WORK ZONES

Notes:

- The size of diamond shaped Temporary Traffic Control (TTC) warning signs shall be a minimum of 48" X 48".
- Fluorescent orange shall be used for all orange colored work zone signs.
- The sign shields, symbols and messages contained on this sheet are provided for ready reference to those signs used in the development of the 102 Series or Indexes and are commonly used in the development of traffic control plans. For additional signs and sign detail information refer to the STANDARD HIGHWAY SIGNS MANUAL as specified in the MUTCD. Special signs for traffic control plans will be as approved by the State Traffic Plans Engineer.

The sign codes shown on this sheet are for the purpose of identifying cell names found in the Traffic Control Cell Library (TC2.Ce).

The STANDARD HIGHWAY SIGNS MANUAL should be referenced for the official sign codes for use in the development of traffic control plans.

See Index 700-102 for MOT sign details.

COLOR CODES

Legend and/or Symbol Background

- O-Orange (Reflectorized)
- B-Black (Non-Reflectorized)
- W-White (Reflectorized)
- R-Red (Reflectorized)
- Y-Yellow (Reflectorized)
- G-Green (Reflectorized)

LAST REVISION	DESCRIPTION:	FDOT	FY 2019-20	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES	INDEX	SHEET
11/01/17			STANDARD PLANS		102-600	7 of 12

CHANNELIZING DEVICES

CHANNELIZING DEVICE NOTES:

- The details shown on this sheet are for the following purposes:
 - For ease of identification and
 - To provide information that supplements or supersedes that provided by the MUTCD.
- The Type III Barricade shall have a unit length of 6'-0" only. When barricades of greater lengths are required these lengths shall be in multiples of the 6'-0" unit.
- No sign panel should be mounted on any channelizing device unless the channelizing device/sign combination was found to be crashworthy and the sign panel is mounted in accordance with the vendor drawing for the channelizing device shown on the Approved Products List (APL).
- Ballast shall not be placed on top rails or any striped rails or higher than 13" above the driving surface.
- The direction indicator barricade may be used in tapers and transitions where specific directional guidance to drivers is necessary. If used, direction indicator barricades shall be used in series to direct the driver through the transition and into the intended travel lane.
- The spacing of sheeting is not permitted on either channelizing devices or MOT signs.
- For rails less than 3'-0" long, 4" stripes shall be used.
- Cones shall:
 - Be used only in active work zones where workers are present.
 - Be reflectorized as per the MUTCD with Department-approved reflective collars when used at night.
- Vehicular longitudinal channelizing devices shall not exceed 36" in height. For vehicular longitudinal channelizing devices (LCDs) less than 32" in height, the LCD shall be supplemented with approved fixed (surface mounted) channelizing devices (tubular markers, vertical panels, etc.) along the run of the LCD, at the ends, at 50' centers on tangents, and 25' centers on radii. The cost of the fixed supplemented channelizing devices shall be included in the cost of the LCD. LCDs less than 32" in height shall not be used for speeds greater than 45 mph.
- For pedestrian longitudinal channelizing devices, the device shall have a minimum of 8" continuous detectable edging above the walkway. A gap not exceeding a height of 2" is allowed to facilitate drainage. The top surface of the device shall be a minimum height of 32" and have a 1/4" or less difference in any plane at all connection points between the devices to facilitate hand trailing. The bottom and the top surface of the device shall be in the same vertical plane. If pedestrian drop-off protection is required, the device shall have a footprint or offset of at least 2', otherwise the device must be at least 42" in height above the walkway and be anchored or ballasted to withstand a 200 lb lateral point load at the top of the device.
- For Barrier Delineators, see Specification 102. Place on top of unit so that retroreflective sheeting faces vehicular traffic. Color must match adjacent longitudinal pavement marking.

TEMPORARY BARRIER NOTES:

- Where a barrier is specified, any of the types below may be used in accordance with the applicable Index:

Index	Description
102-100	Temporary Barrier
102-120	Low Profile Barrier
536-001	Guardrail
- Trailer Mounted Barriers may be used to provide positive protection for workers within the work areas. APL drawings may be used as a guide to develop project specific Temporary Traffic Control Plans that are signed and sealed by the Contractor's Engineer.

VEHICULAR/PEDESTRIAN LCD

LONGITUDINAL CHANNELIZING DEVICE

LAST REVISION	DESCRIPTION:	FDOT	FY 2019-20	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES	INDEX	SHEET
11/01/17			STANDARD PLANS		102-600	11 of 12

TWO-LANE, TWO-WAY, WORK ON SHOULDER

Table I

Device Spacing

Speed (mph)	Cones or Tubular Markers		Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	200	200	200
45 mph	350	350	350	350
50 mph or greater	500	500	500	500

Table II

Taper Length - Shoulder

Speed (mph)	Shoulder Width (ft)			Notes
	8'	10'	12'	
25	28	35	42	L _W ⁵⁰
30	40	50	60	
40	72	90	107	L _W ⁶⁰
45	120	150	180	
50	133	167	200	L _W ⁷⁵
55	147	183	220	
60	160	200	240	L _W ⁸⁵
65	173	217	260	
70	187	233	280	

SYMBOLS

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

GENERAL NOTES

- When four or more work vehicles enter the through traffic lanes in a one hour period or less (excluding establishing and terminating the work area), the advanced FLAGGER sign shall be substituted for the WORKERS sign. For location of flaggers and FLAGGER signs, see Index 102-603.
- SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign only on the side where the shoulder work is being performed.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index 102-600.

DURATION NOTES

- Signs and channelizing devices may be omitted if all of the following conditions are met:
 - Work operations are 60 minutes or less.
 - Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRUSH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

LAST REVISION	DESCRIPTION:	FDOT	FY 2019-20	TWO-LANE, TWO-WAY, WORK ON SHOULDER	INDEX	SHEET
11/01/17			STANDARD PLANS		102-602	1 of 1

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL

REVISIONS

NO.	DATE	DESCRIPTION
1	08/16/2023	REVISIONS PER 2023 BID

DATE 08/16/2023

JOB NO. 19-007T

DESIGNED AS

DRAWN JOB

DATE JAN. 10, 2020

CHECKED AS

DATE ISSUED 08-09-2023

MBV ENGINEERING, INC.

MOYA BOWLES VILLAMIZAR & ASSOCIATES

CONSULTING ENGINEERING CA #3728

1400 S. 10TH STREET

PH: (772) 348-2433

FX: (772) 348-2433

FL: (772) 348-2433

FLORIDA

AARON G. STANTON

LICENSE

No. 72460

STATE OF FLORIDA

PROFESSIONAL ENGINEER

AARON G. STANTON

FL P.E. #72460

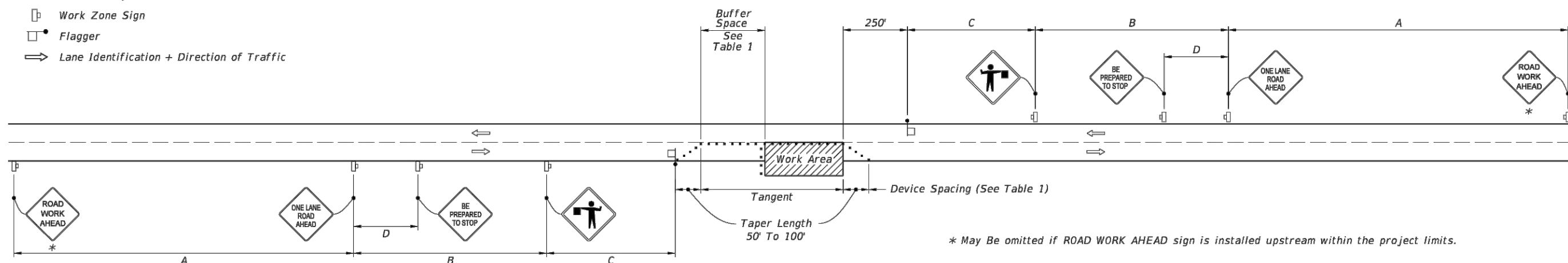
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SHEET

19-007T

- SYMBOLS:**
- Work Area
 - Channelizing Device (See Index 102-600)
 - Work Zone Sign
 - Flagger
 - Lane Identification + Direction of Traffic



* May Be omitted if ROAD WORK AHEAD sign is installed upstream within the project limits.

WITHOUT TEMPORARY RAISED RUMBLE STRIPS

GENERAL NOTES:

1. Special Conditions may be required in accordance with these notes and the following sheets:
 - A. Railroad Crossings:
 - a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 3.
 - b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.
 - B. If the Work Area encroaches on the Centerline, use the Layout for Temporary Lane Shift to Shoulder on Sheet 3 only if the Existing Paved Shoulder width is sufficient to provide for an 11' lane between the Work Area and the edge of Existing Paved Shoulder. Reduce the posted speed when appropriate.
2. Temporary Raised Rumble Strips:
 - A. Use when both of the following conditions are met concurrently:
 - a. Existing Posted Speed is 55 mph or greater;
 - b. Work duration is greater than 60 minutes.
 - B. Use a consistent Strip color throughout the work zone.
 - C. Place each Rumble Strip set transversely across the lane at locations shown.
 - D. Use Option 1 or Option 2 as shown on Sheet 2. Use only one option throughout work zone.
3. Additional one-way control may be provided by the following means:
 - A. Flag-carrying vehicle;
 - B. Official vehicle;
 - C. Pilot vehicles;
 - D. Traffic signals.

When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.
4. When a side road intersects the highway within the TTC zone, place additional TTC devices in accordance with other applicable TCZ indexes.
5. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. When Buffer Space cannot be attained due to geometric constraints, use the greatest attainable length, not less than 200 ft, for posted speeds greater than 25 mph.
7. ROAD WORK AHEAD and the BE PREPARED TO STOP signs may be omitted if all of the following conditions are met:
 - A. Work operations are 60 minutes or less.
 - B. Speed limit is 45 mph or less.
 - C. There are no sight obstructions to vehicles approaching the work area for a distance equal to the Buffer Space shown in Table 1.
 - D. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
 - E. Volume and complexity of the roadway has been considered.
 - F. If a railroad crossing is present, vehicles will not queue across rail tracks.
 - G. AFADs are not in use.
8. See Index 102-600 for general TCZ requirements and additional information.
9. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specifications Section 102, 990 and the APL vendor drawings.

Posted Speed	DEVICE SPACING				Distance Between Signs				Buffer Space
	Maximum Spacing of Cones or Tubular Markers		Maximum Spacing of Type I or Type II Barricades/Panels/Drums		A	B	C	D	
	On a Taper	On a Tangent	On a Taper	On a Tangent					
25	20	50	20	50	200	200	200	100	150
30	20	50	20	50	200	200	200	100	200
35	20	50	20	50	200	200	200	100	250
40	20	50	20	50	200	200	200	100	300
45	20	50	20	50	250	350	350	175	360
50	20	50	20	100	500	500	500	250	420
55	20	50	20	100	2640	1500	1000	500	490
60	20	50	20	100	2640	1500	1000	500	570
65	20	50	20	100	2640	1500	1000	500	640
70	20	50	20	100	2640	1500	1000	500	720

CONDITIONS
WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRoACH THE AREA BETWEEN THE CENTERLINE AND A LINE 2' OUTSIDE THE EDGE OF TRAVEL WAY.

LAST REVISION 11/01/17	DESCRIPTION: FY 2019-20 STANDARD PLANS	FY 2019-20 STANDARD PLANS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 1 of 3
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NO.	DATE	REVISIONS
1	06/16/2023	1 REVISIONS PER 2023 BID

19-007T	AS	JOB	JAN. 10, 2020	AS	09-09-2023
DESIGNED	AS	DRAWN	DATE	CHECKED	DATE ISSUED

MBV ENGINEERING, INC.
MOIA, BOWLES, VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1800 S. 107TH STREET
P.O. BOX 248
P.O. BOX 248
P.O. BOX 248
P.O. BOX 248

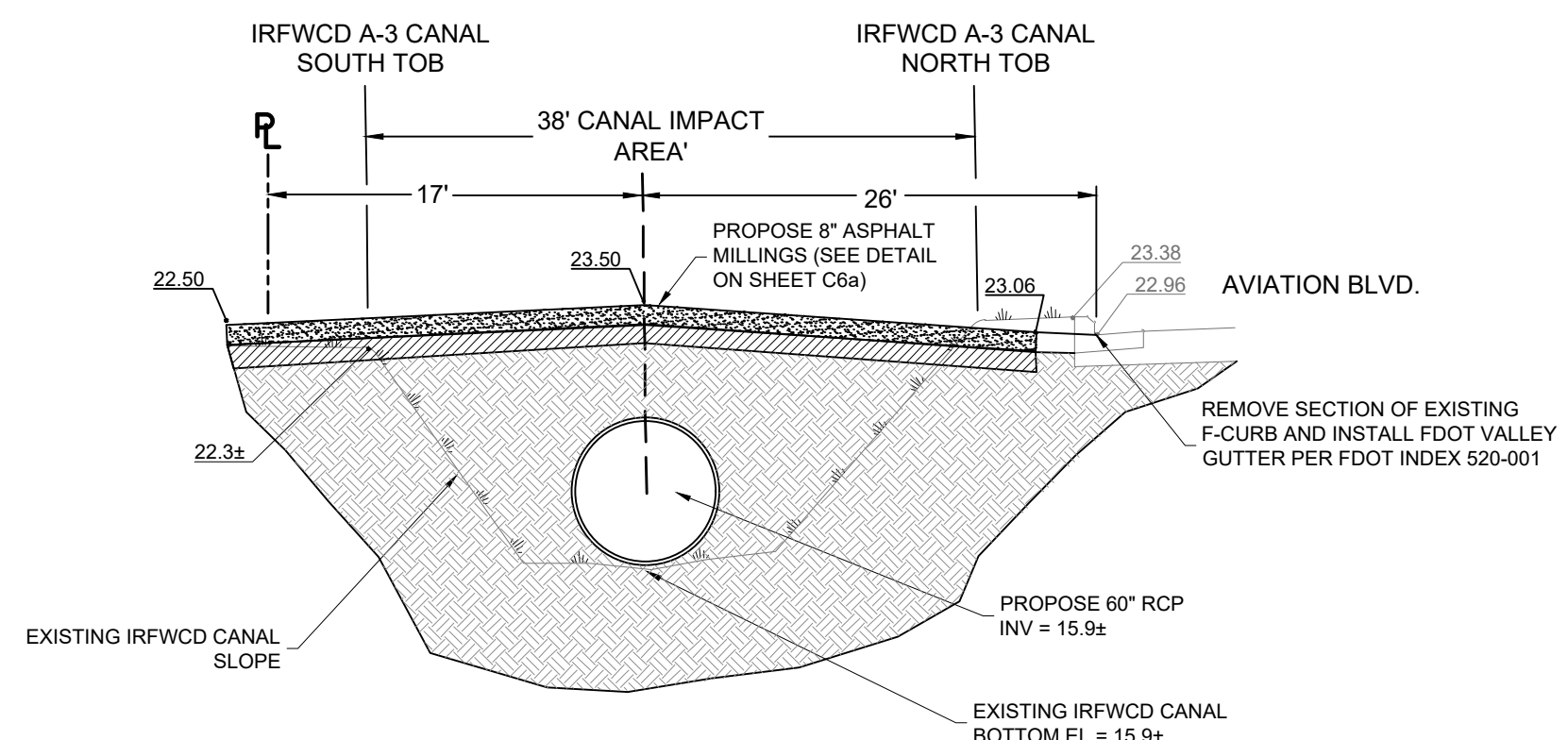
MOT DETAILS - 3

JACKIE ROBINSON TRAINING COMPLEX
WALKING TRAIL
FLORIDA
CITY OF VERO BEACH

AARON G. STANTON
LICENSE
No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

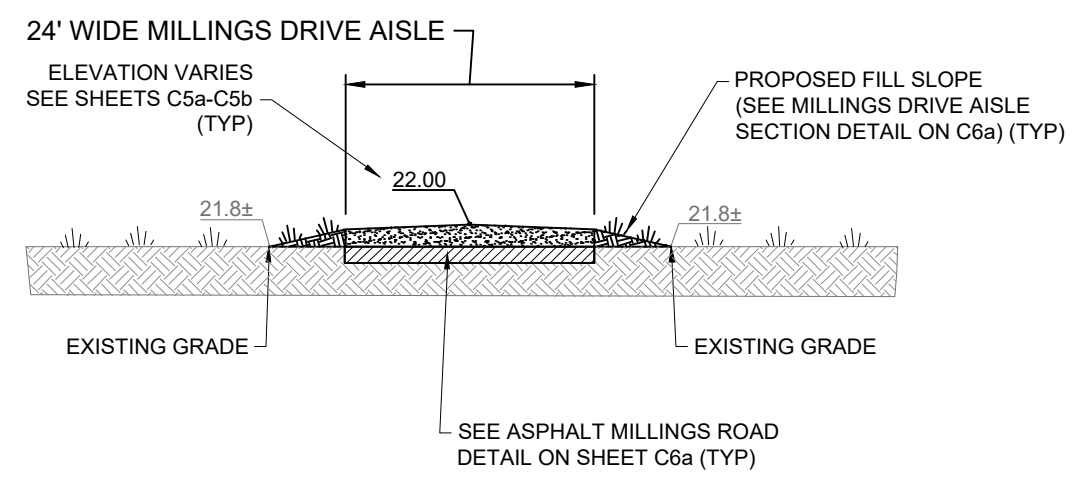
AARON G. STANTON
FL. P.E. #72460 6/19/23
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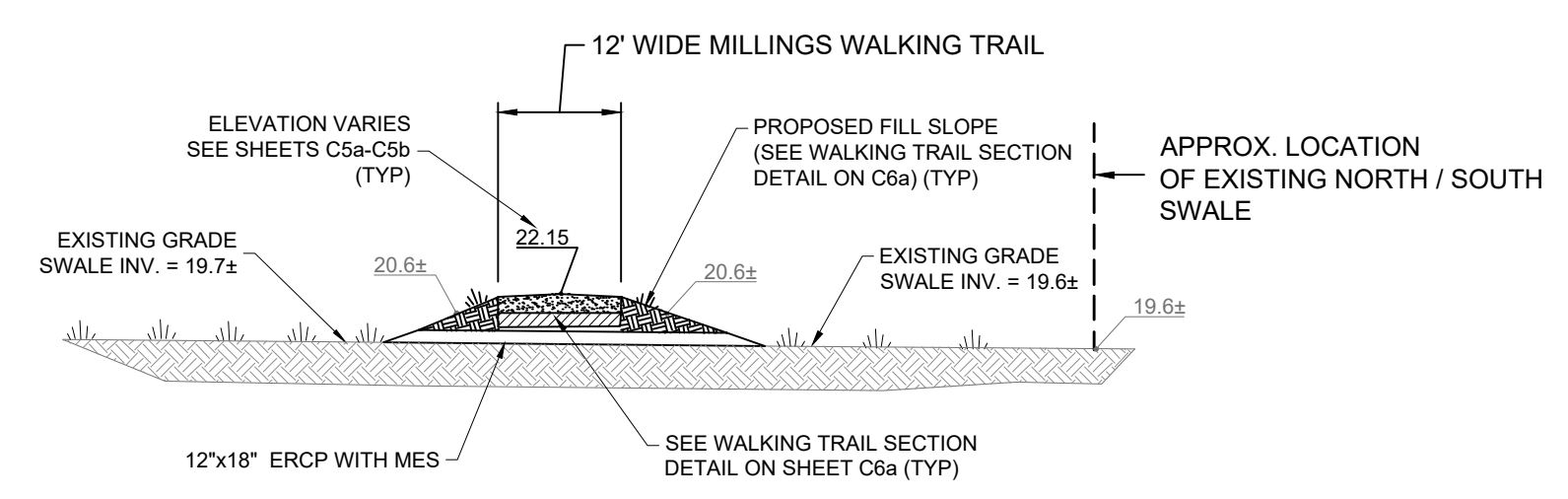


IRFWCD A-3 CANAL SURFACE WATER IMPACT AT CULVERT 0.04 AC
 TOTAL SURFACE WATER ADJACENT TO (NOT PART OF) THE PROJECT = 0.52 AC. (SEE SHEET EX-2)

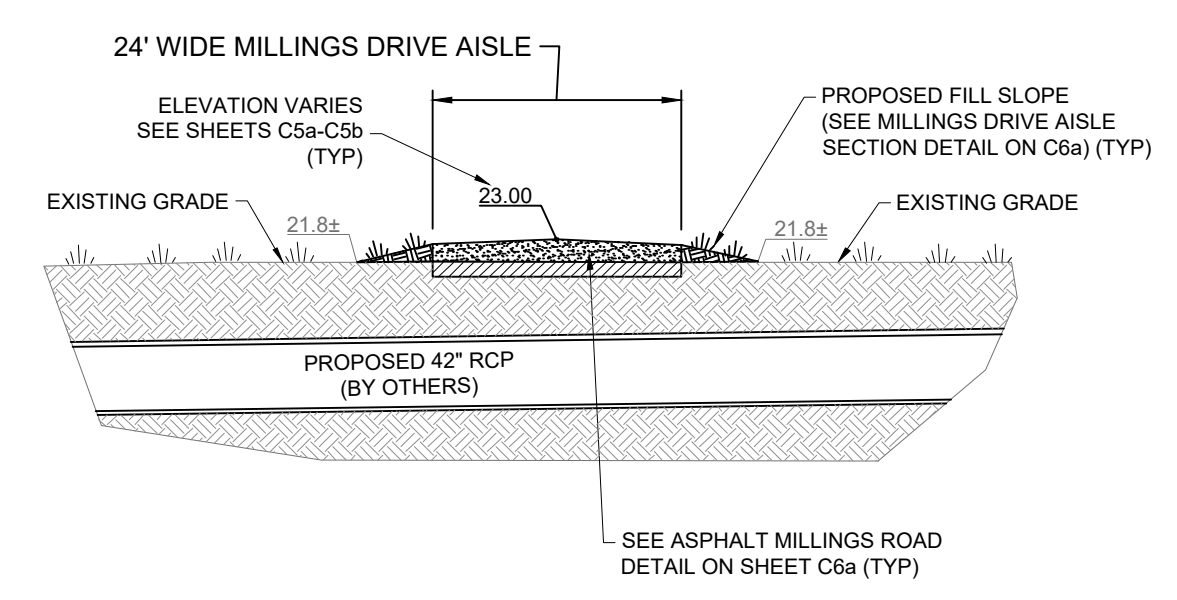
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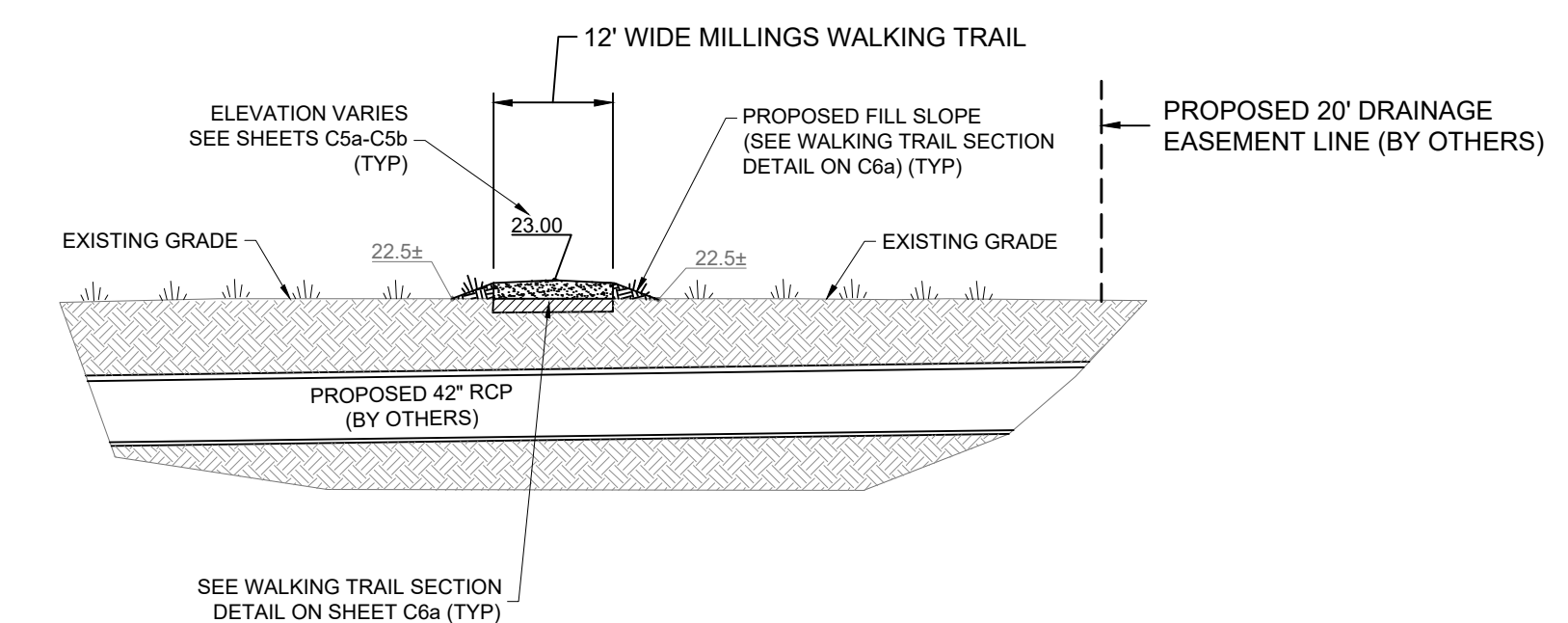
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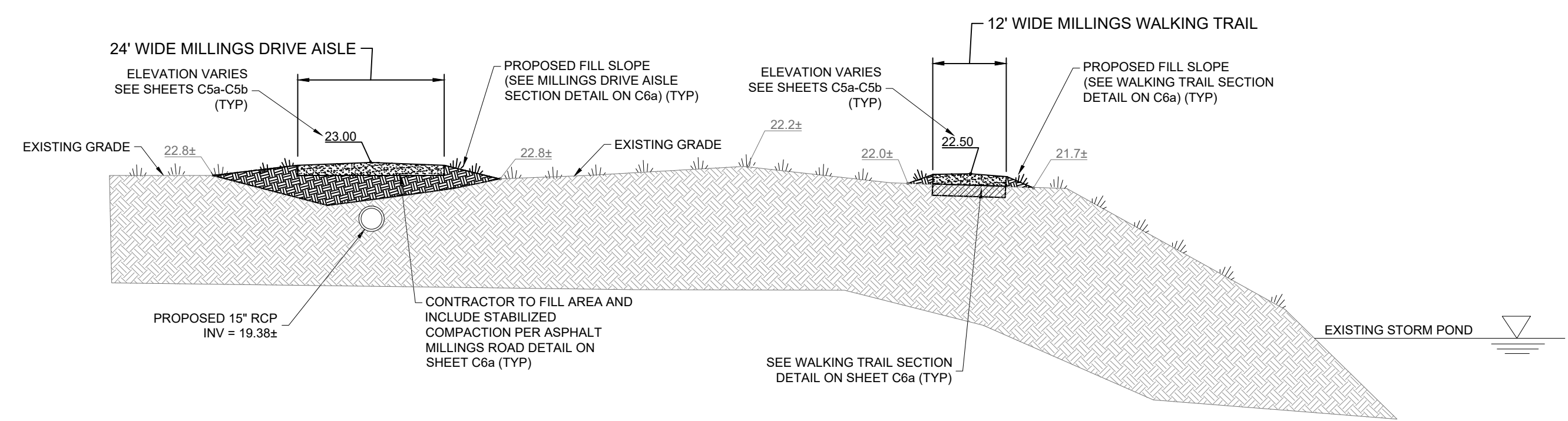
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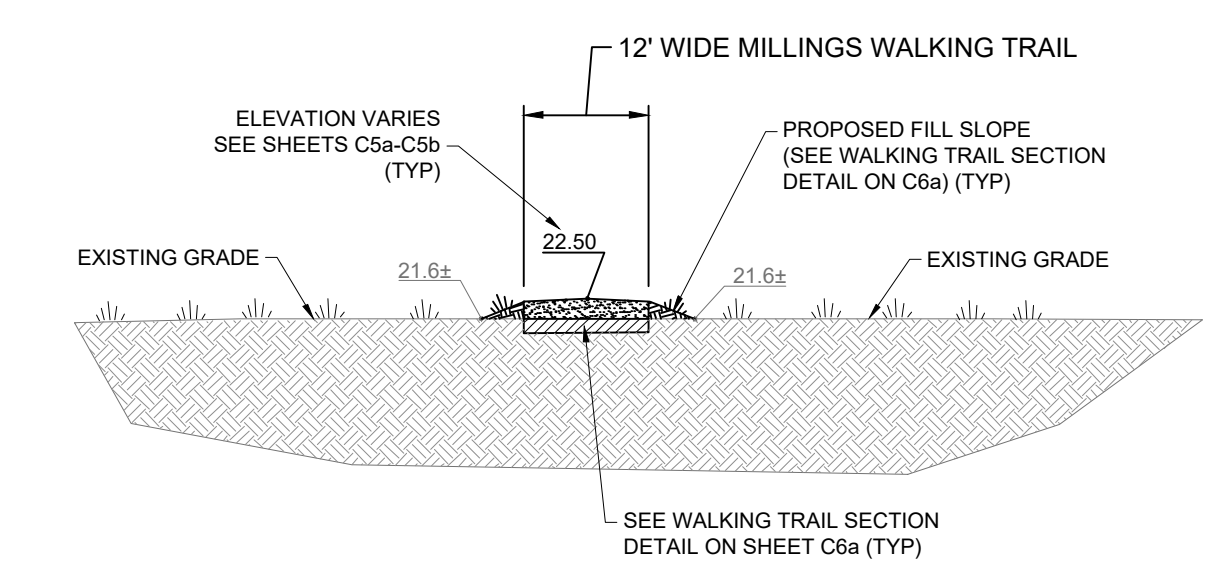
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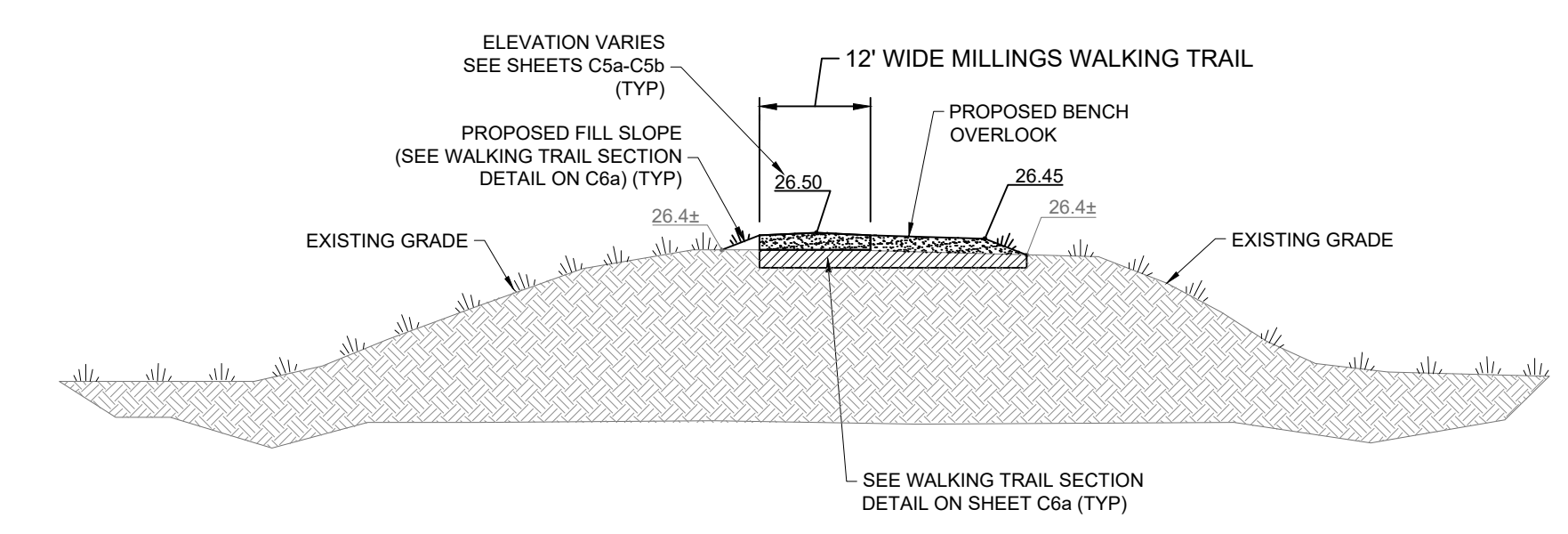
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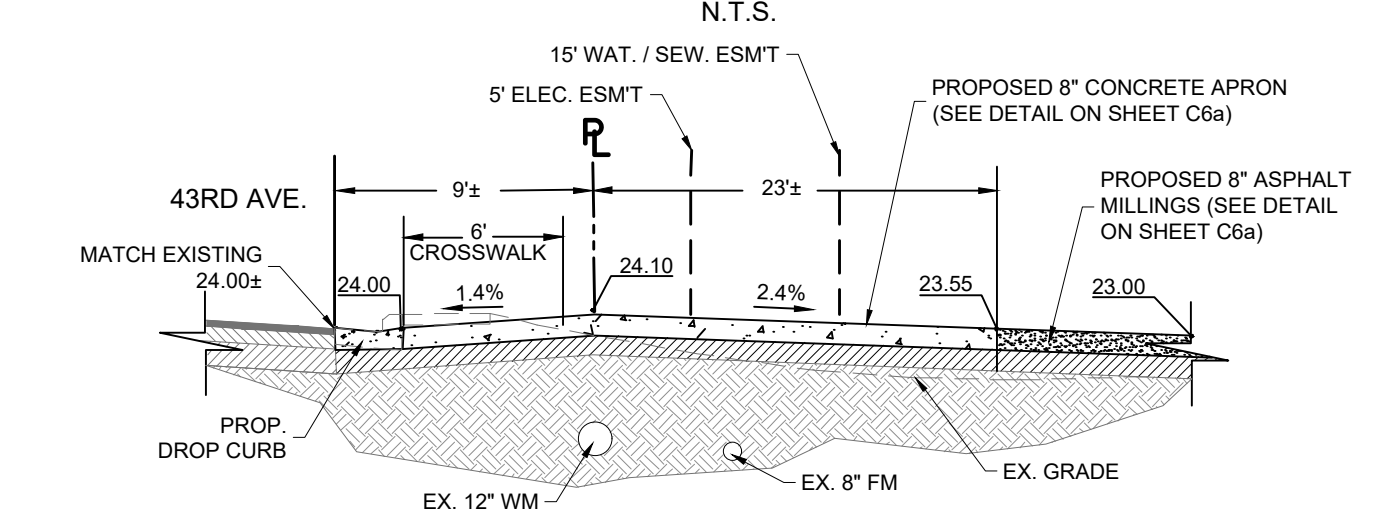
SECTION F
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SECTION G
N.T.S.



SECTION H
N.T.S.



SECTION I
N.T.S.

NO.	REVISIONS	DATE
8		
7		
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4		
3		
2		
1		

19-0077	AS	JOB	06-05-2023
DESIGNED			
DRAWN			
DATE			
CHECKED			
DATE ISSUED			

MBV ENGINEERING, INC.
 MONTECALMO MILLANZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 1415 27TH STREET
 VERO BEACH, FL 33490
 P. (772) 778-3437
 F. (772) 778-3437

CROSS SECTION DETAILS

JACKIE ROBINSON TRAINING COMPLEX
WALKING TRAIL

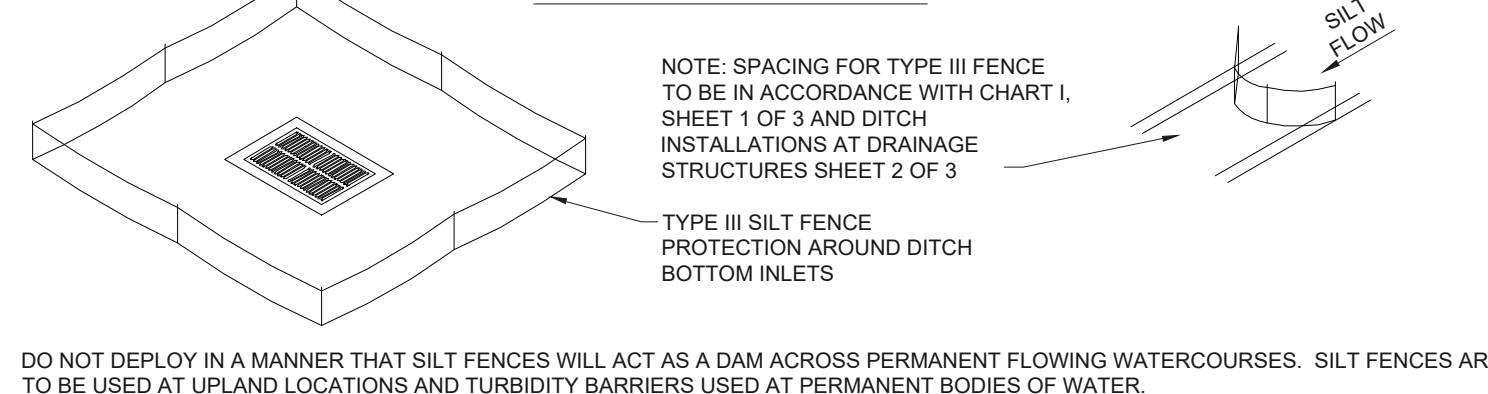
AARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

AARON G. STANTON
 FL P.E. #72460 6/19/23

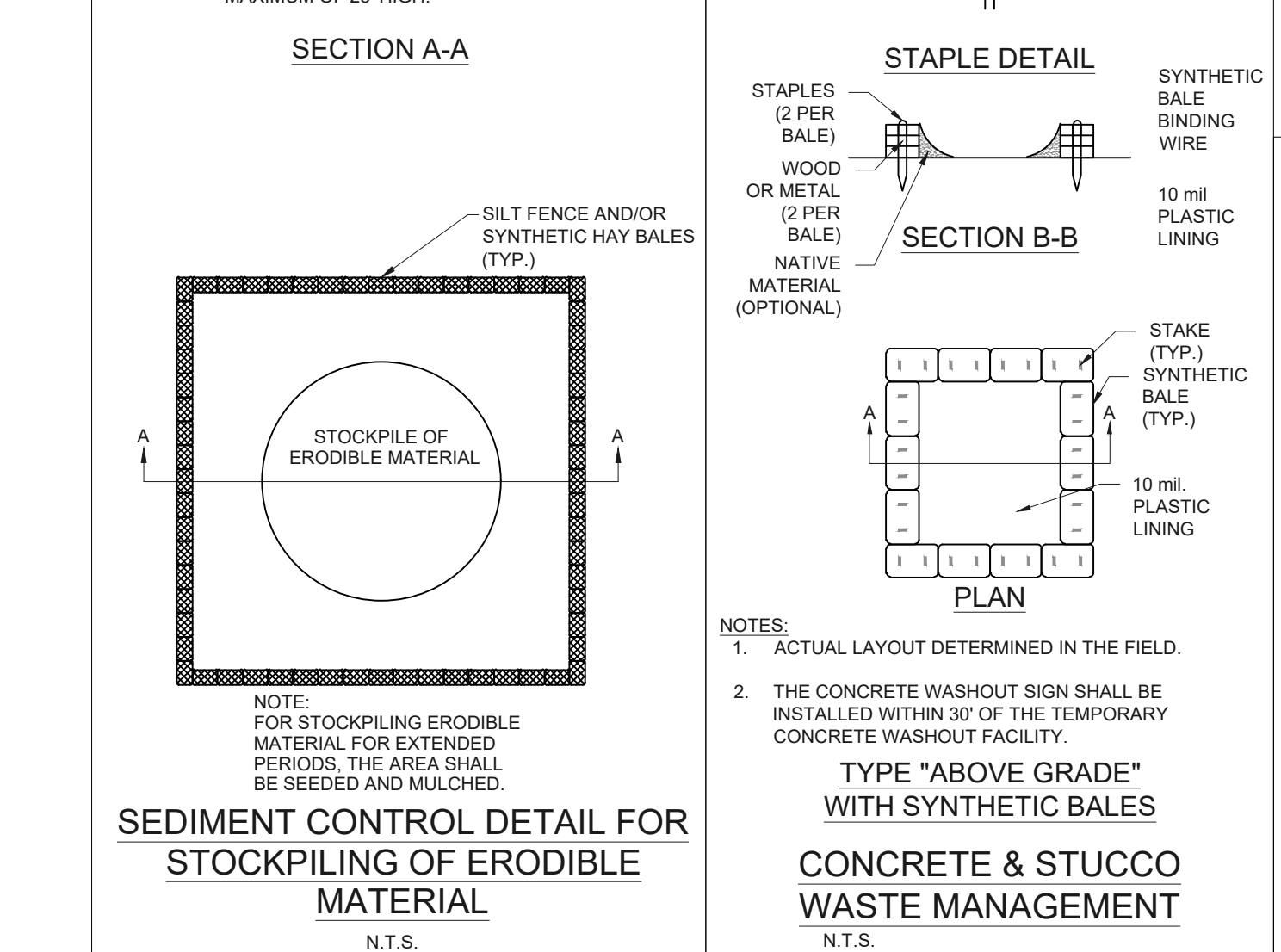
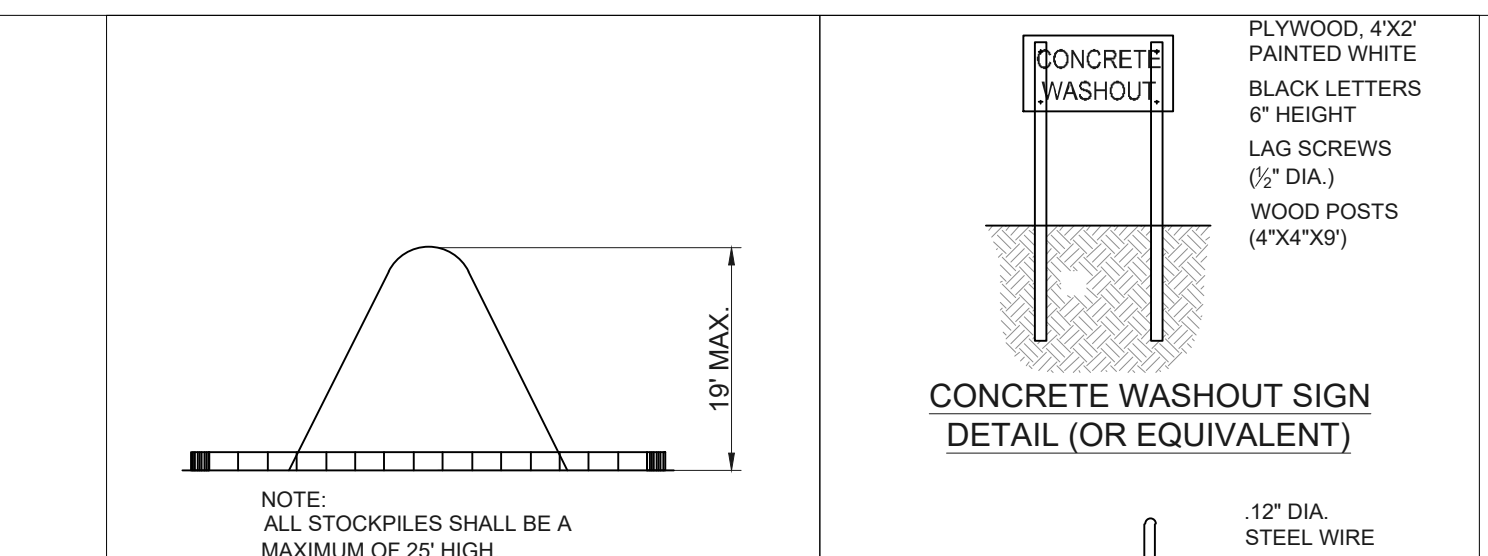
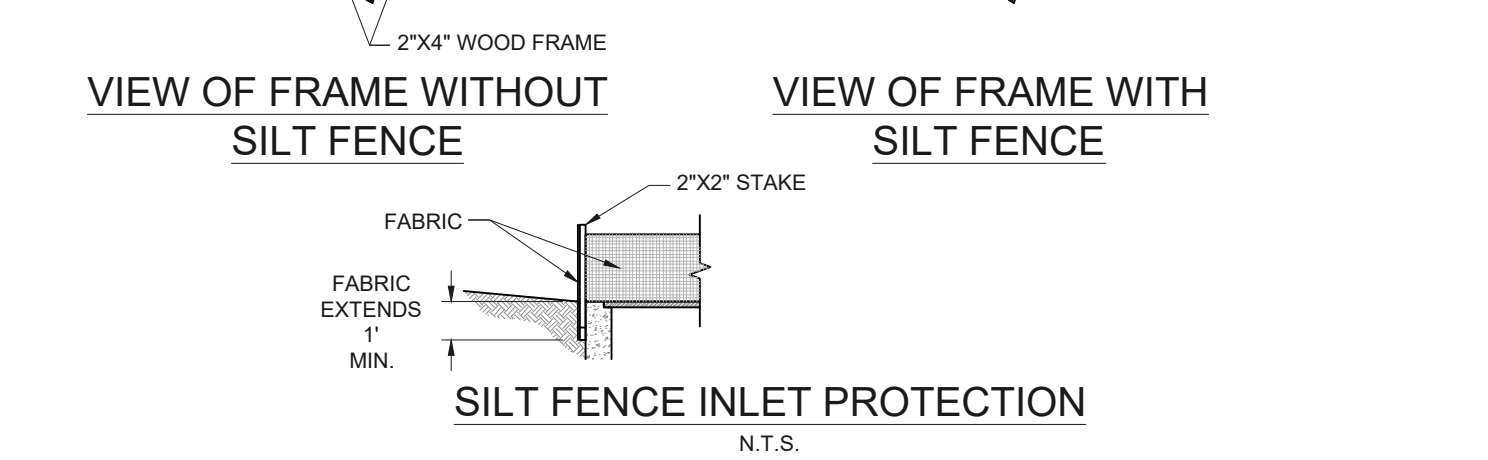
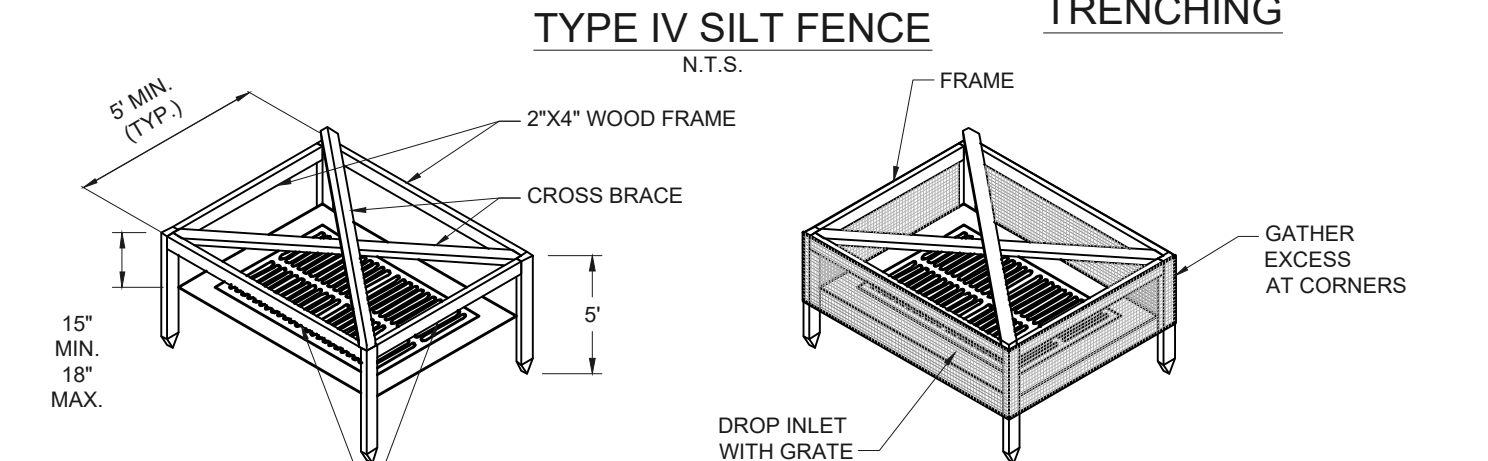
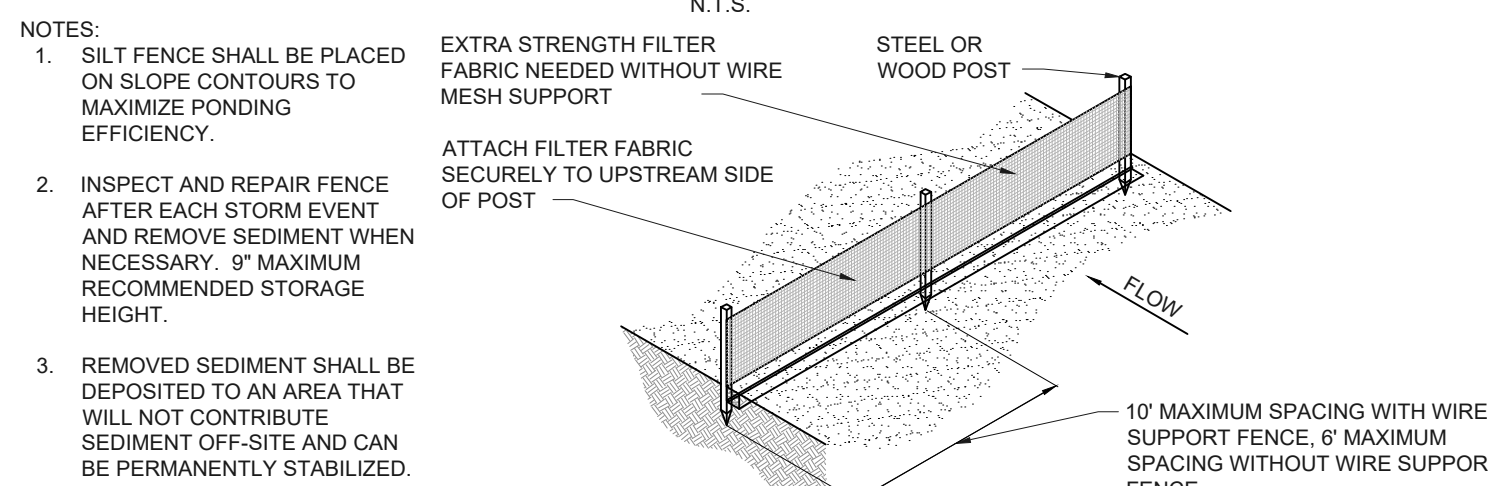
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SILT FENCE APPLICATIONS

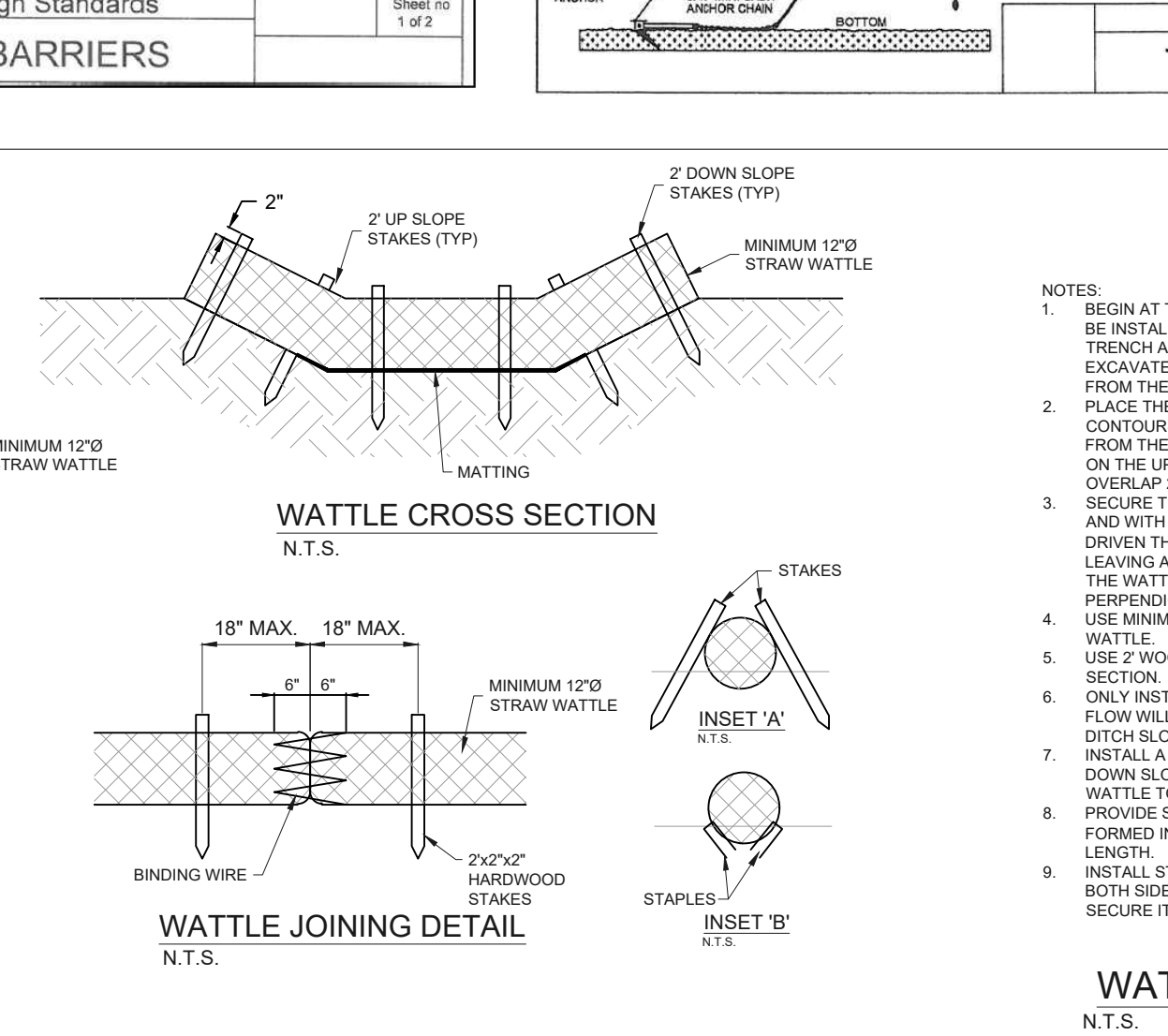
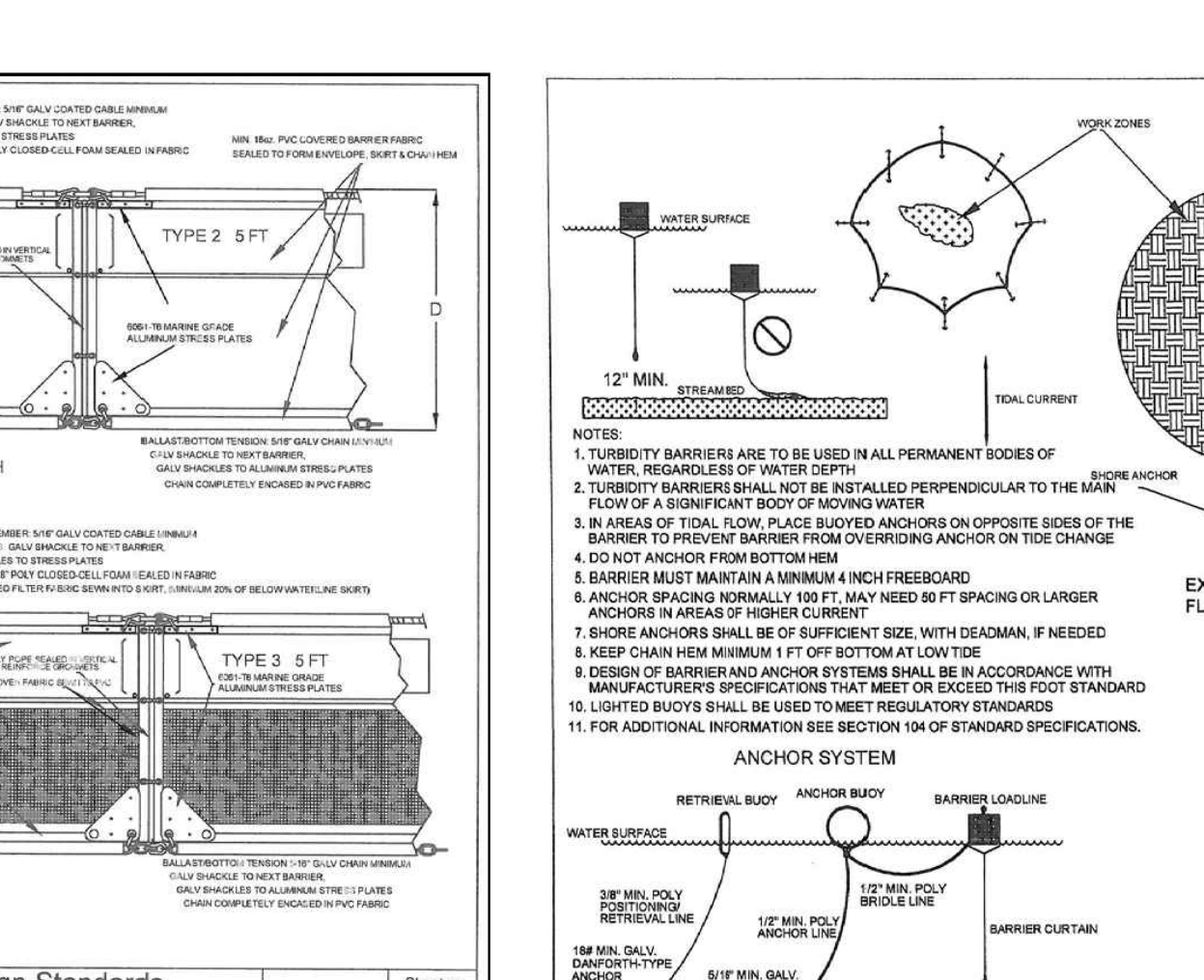
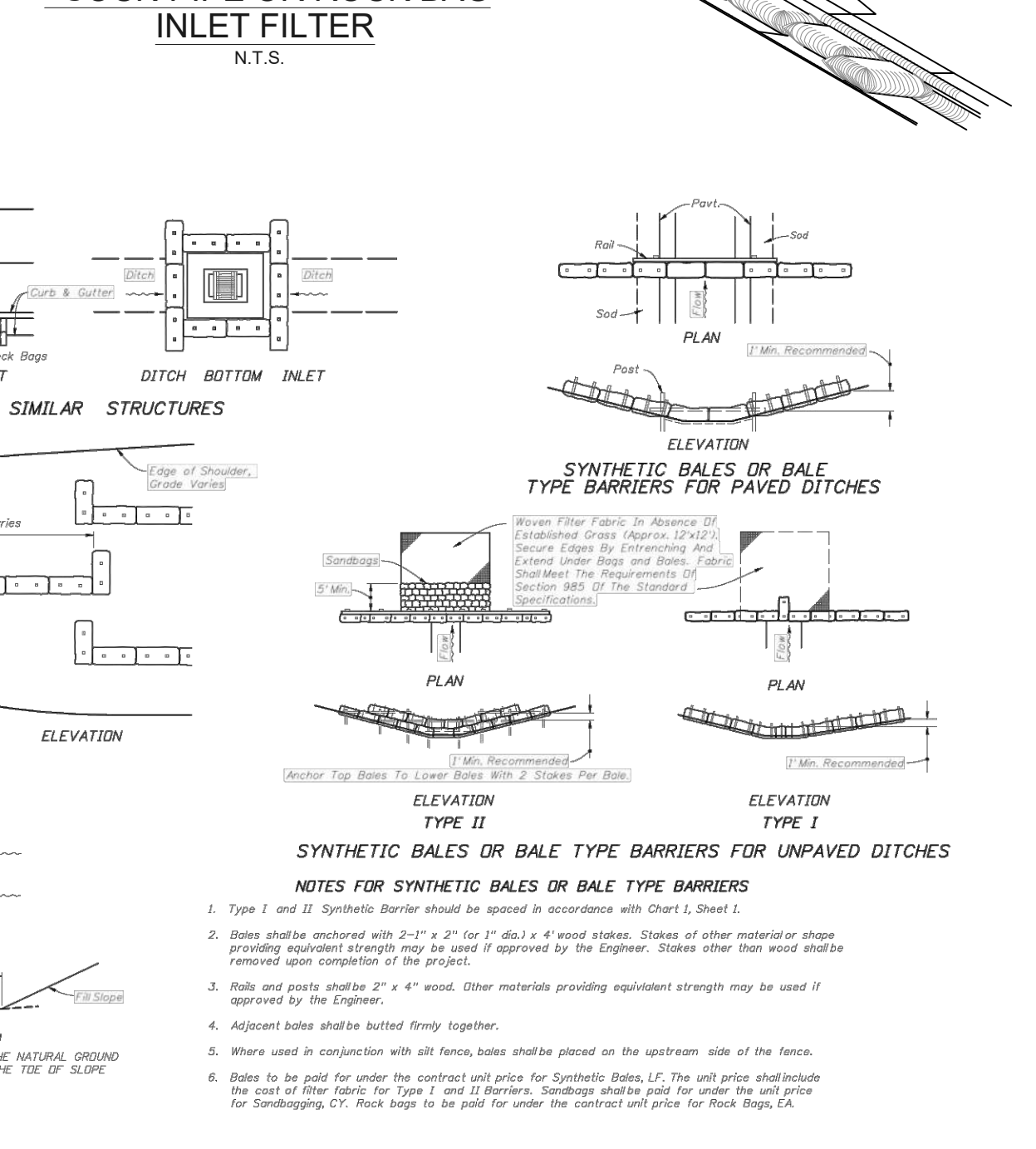
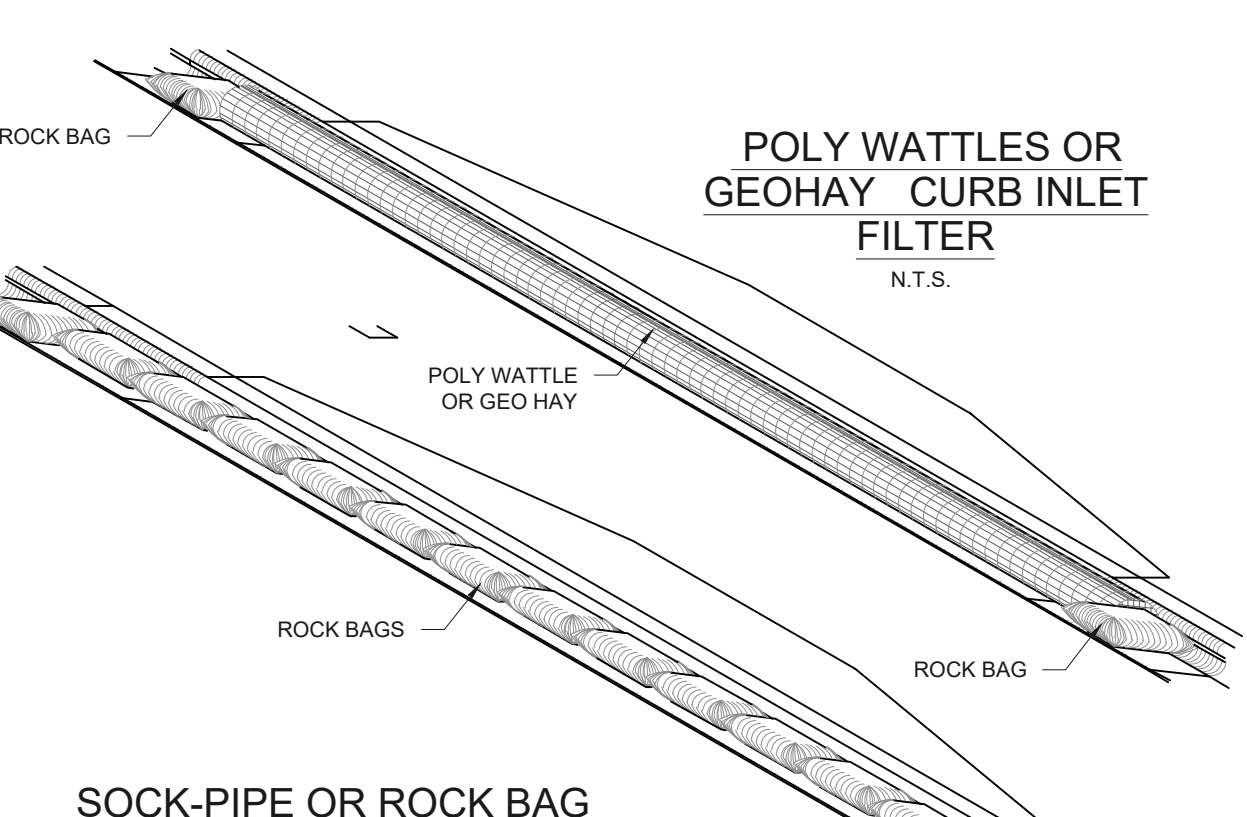
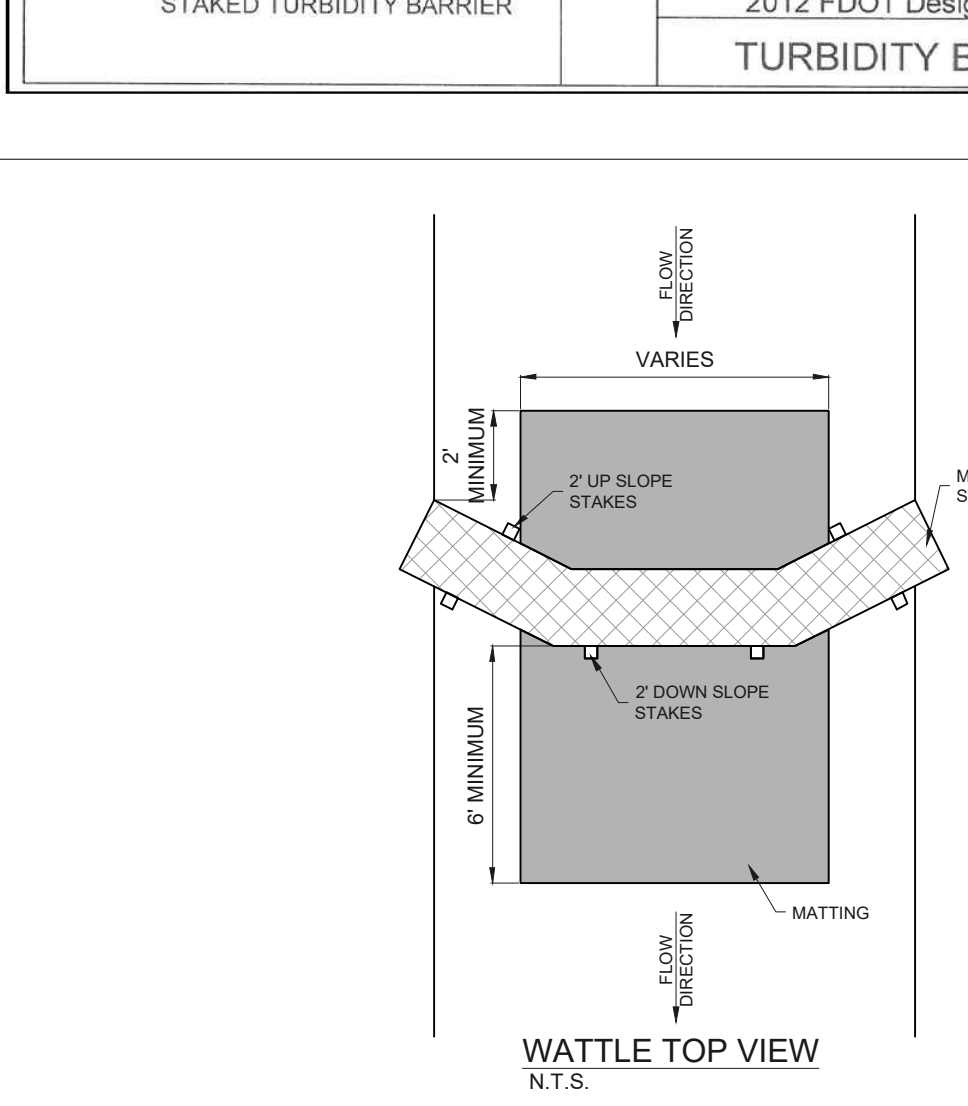
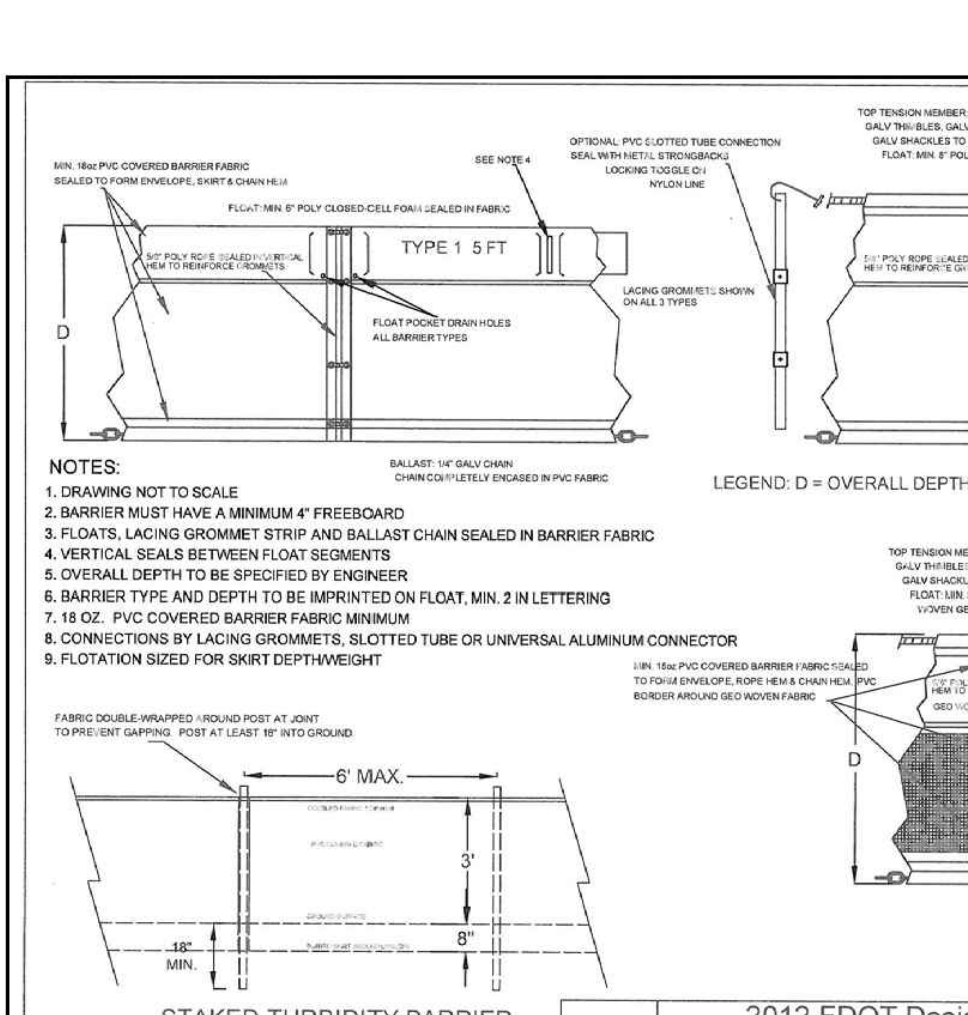
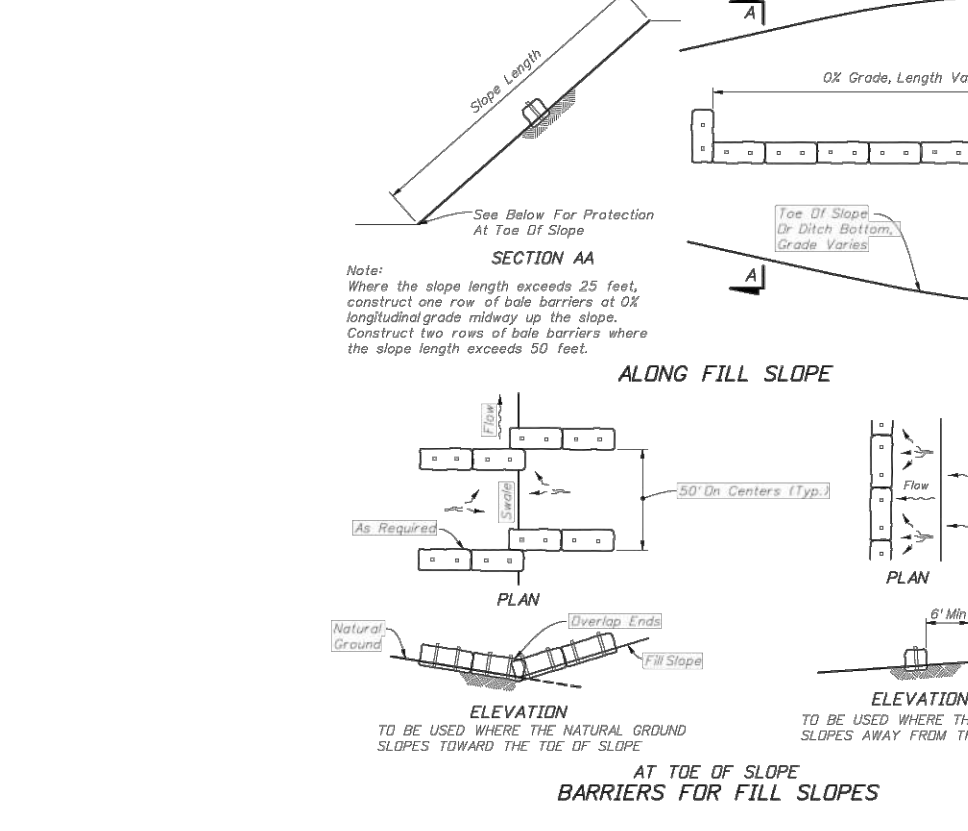
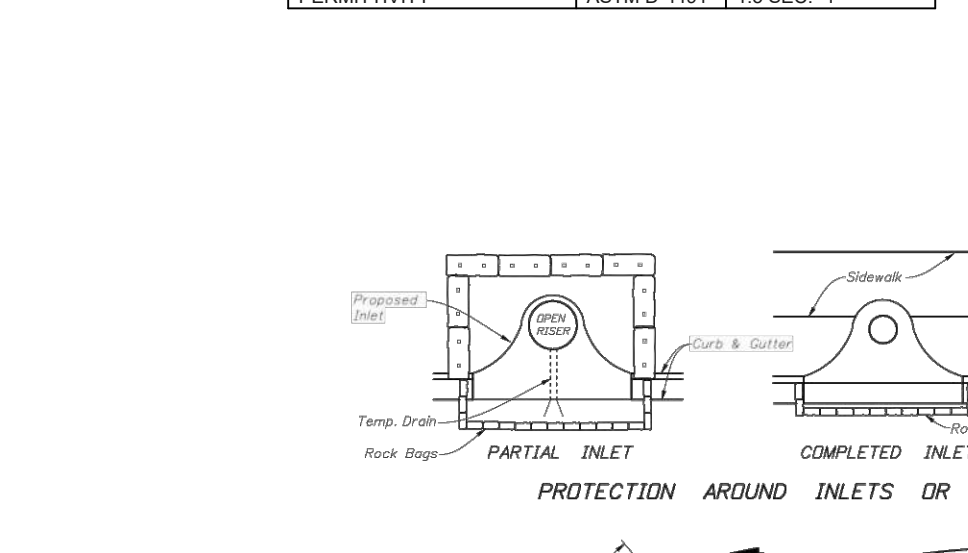


LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	500 P.S.I.
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL./MIN./S.F.
PERMITTIVITY	ASTM D-4491	0.55 SEC.-1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 P.S.I.
UV RESISTANCE	ASTM D-4355	90%
APARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL./MIN./S.F.
PERMITTIVITY	ASTM D-4491	1.5 SEC.-1



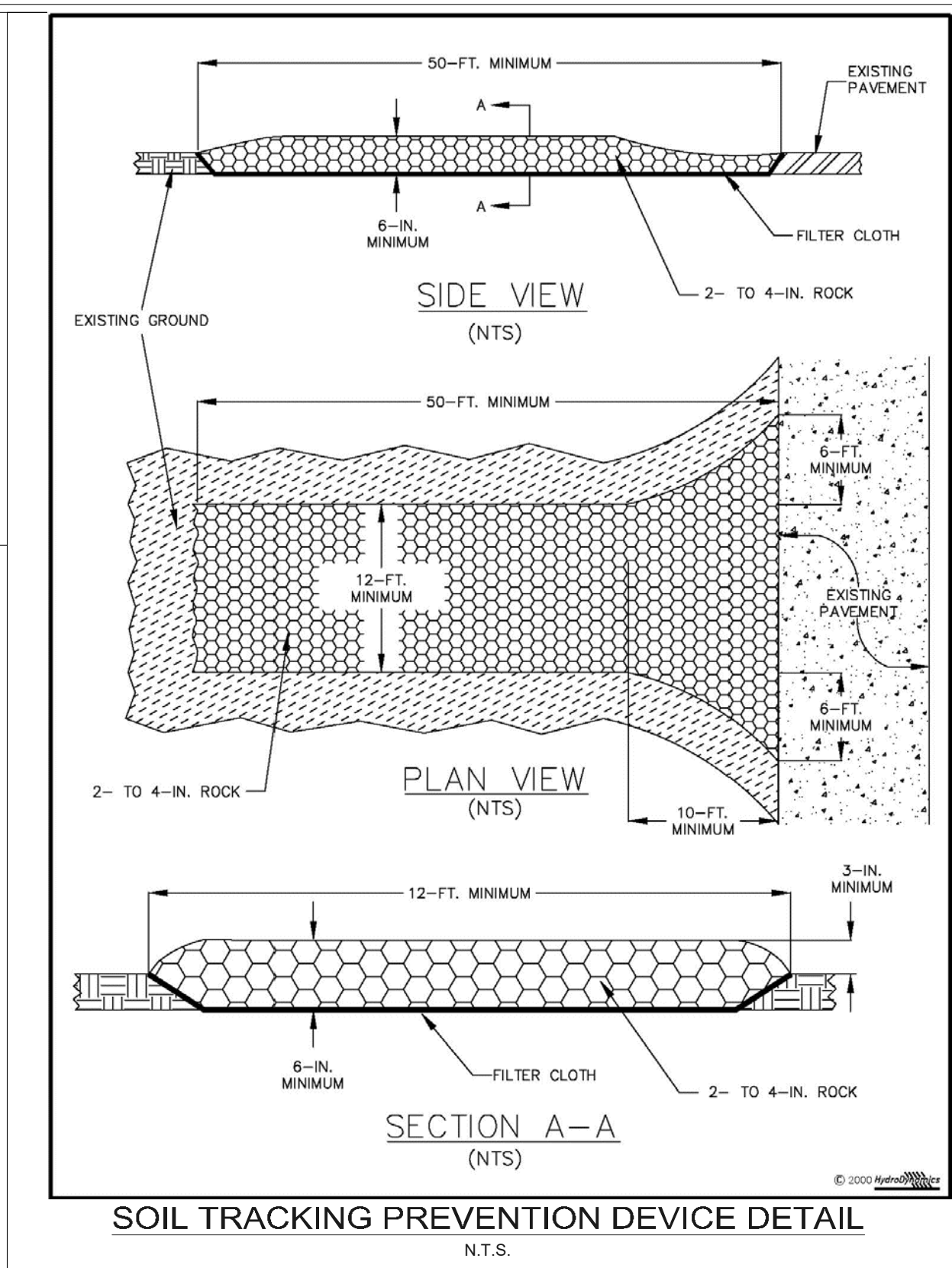
EROSION AND SEDIMENTATION CONTROL NOTES

CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPawning SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

MINIMUM STANDARDS

- SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNLSPO LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENuded AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENuded AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENuded AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
- AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTFALL PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

- WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE DEVELOPED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. IN THE OPINION OF THE REVIEWER, DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
- PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
- EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
- THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER SPECIFICS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



EROSION CONTROL DETAILS

JACKIE ROBINSON TRAINING COMPLEX WALKING TRAIL

CITY OF VERO BEACH

FLORIDA

PROFESSIONAL ENGINEER

AARON G. STANTON

FL. P.E. #72460

6/19/23

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SHEET

NO.	DESCRIPTION	DATE
1	REVISIONS PER 2023 BID	08/16/2023
2	DESIGNED	AS
3	DATE	JAN. 10, 2020
4	CHECKED	AS
5	DATE ISSUED	08-09-2023

